Burbank Housing and Safety Element Update

Draft Environmental Impact Report

prepared by

City of Burbank
Community Development Department
150 North Third Street
Burbank, California 91502
Contact: Shipra Rajesh, Associate Planner

prepared with the assistance of

Rincon Consultants, Inc.
250 East First Street, Suite 1400
Los Angeles, California 90012

January 2022

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Executive Summary

This document is an Environmental Impact Report (EIR) analyzing the environmental effects of the proposed Burbank Housing and Safety Element Update (“Housing and Safety Element Update” or “Project”). This section summarizes the characteristics of the Project, alternatives to the Project, and the environmental impacts and mitigation measures associated with the Project.

Project Synopsis

Project Applicant

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Project Description

The proposed Project would involve an update to the Housing Element of the City’s Burbank2035 General Plan for the 2021-2029 planning period, along with minor updates to the Safety, Land Use, Open Space and Conservation, Air Quality and Climate Change, Noise, and Mobility Elements, and the incorporation of environmental justice goals, policies and objectives into the Burbank2035 General Plan. The proposed Housing and Safety Element Update establishes programs, policies and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community; provides evidence of the City’s ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG), and identifies any rezoning program needed to reach the required housing capacity. The Safety Element update is triggered by various new provisions of state law, the Mobility Element update would incorporate VMT (vehicle miles traveled) metrics per SB 743, and the environmental justice policies would be added pursuant to the requirements of Senate Bill 1000 (SB 1000) which requires that revisions or adoption of two or more elements of a general plan on or after January 1, 2018 “adopt or review the Environmental Justice Element, or the environmental justice goals, policies, and objectives in other elements” to focus on the inclusion of disadvantaged communities (DACs) in decision making procedures as well as increasing protections for these communities.

Project Characteristics

The Housing and Safety Element Update would apply to the entire geographic area located within the boundaries of the City of Burbank, which encompasses 17.1 square miles. The Project would involve an update to the Housing Element of the City's 2035General Plan for the 2021-2029 planning period, along with minor updates to the Safety, Land Use, Open Space and Conservation, Air Quality and Climate Change, Noise, and Mobility Elements, and the incorporation of environmental justice goals, policies and objectives into the 2035 General Plan. The proposed Housing Element Update establishes programs, policies and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community; provides evidence of the City's ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG); and identifies any rezoning program needed to reach the required housing capacity.

Housing Element

The Housing Element is comprised of the following major components:

- Review of effectiveness of existing Housing Element
- Assessment of existing and projected housing needs
- Identification of resources – financial, land, administrative
- Evaluation of constraints to the development of housing
- Housing Plan – goals, policies, and programs

The Housing Element Update would provide a framework for accommodating new housing at all levels of affordability that is within access to transit, Downtown jobs, services, and open spaces within the 8-year planning period of October 2021-October 2029. New housing units may occur anywhere in the City where residential uses are permitted, as well as in areas that may be rezoned in the future to allow for multi-family residential and mixed-use residential of adequate density to meet State-required housing production and affordability targets as discussed below.

RHNA Allocation

SCAG has allocated the region's 1,341,827 housing unit growth needs to each city and county through a process called the Regional Housing Needs Allocation (RHNA). The RHNA represents the minimum number of housing units that the City is required to plan for in its housing element by providing "adequate sites" through the Burbank2035 General Plan and zoning residential capacity. As shown in Table ES-1, Burbank's RHNA allocation for the 2021-2029 planning period (6th RHNA cycle) is 8,772 units, which is distributed among four income categories (HCD 2020). Additionally, the City is required to provide a sufficient buffer beyond that required by the RHNA to ensure that adequate site capacity exists throughout the eight-year planning period.

Table ES-1 RHNA Percentage of Income Distribution

Income Level	Percent of Area Median Income (AMI)	Units	Percent
Very Low	0-50%	2,553	29%
Low	51-80%	1,418	16%
Moderate	81-120%	1,409	16%
Above Moderate	>120%	3,392	39%
Total	--	**8,772**	**100%**

Source: SCAG 2021

The RHNA represents the minimum number of housing units that the City is required to plan for in its housing element by providing "adequate sites" through the 2035General Plan and zoning.

Table ES-2 shows the estimated number and affordability level of housing units to accommodate the City's RHNA under the existing General Plan and zoning, including projects that are entitled and pending entitlement, specified housing opportunity sites, Accessory Dwelling Units (ADUs) expected to be developed over the course of the planning period, and the units produced through the City's committed assistance program. As shown in Table ES-2, these sources total 7,673, which falls short of the RHNA allocation by 1,099 units.

Table ES-2 Estimated Net Housing Units for the City of Burbank

		Income Distribution			
Sites/Projects	**Total Net Units**	**Very Low**	**Low**	**Moderate**	**Above Moderate**
2021 – 2029 RHNA Targets	**8,772**	**2,553**	**1,418**	**1,409**	**3,392**
Entitled Projects	934	7	6	83	838
Pending Entitlement	1,489	227	31	0	1,202
Opportunity Sites (Zoning in place)	3,640	1,988	1,068	292	292
Accessory Dwelling Units (ADUs)[1]	1,600	384	704	32	480
Committed Assistance[2]	10	10	0	0	0
Total Site Capacity	**7,673**	**4,425**		**436**	**2,812**
RHNA Surplus/(Shortfall)	**(1,099)**	**+454**		**(973)**	**(580)**

[1] ADUs are small backyard units that are either attached or detached from a single-family home.

[2] Committed Assistance units are units that the City has provided a legally enforceable agreement to provide. This is through an ongoing partnership with the Burbank Housing Corporation. See the Housing Element for further discussion.

To make up for this shortfall of 1,099 units, the Housing Element includes a housing program to rezone additional opportunity sites through adoption of two specific plan projects: the Downtown Transit-Oriented-Development Specific Plan (Downtown TOD) and the Golden State Specific Plan (GSSP) (see Figure 2-3 in the *Project Description* for the Specific Plan locations and opportunity sites). Adoption of these Specific Plans will provide the necessary zoning, development standards, and processing procedures to facilitate the production of the shortfall of housing units required to accommodate the City's RHNA during the Housing Element planning period. The zone changes required by these Specific Plans will be adopted in 2022-2023, or within three years of the start of the planning period as required by State law.

Table ES-3 shows the number of units expected from the rezoning of the Specific Plan areas. With the additional rezone sites the City would exceed the RHNA requirement by 1,343 units with an additional 2,442 units accommodated. The State requires jurisdictions to create a sufficient buffer in the Housing Element sites inventory beyond that required by the RHNA to ensure that adequate site capacity exists throughout the eight-year planning period. The Notice of Preparation that was circulated on March 17, 2021 for the proposed Project included an estimated growth of 10,088 housing units based on the City's RHNA allocation and 15 percent buffer. However, the estimated growth for the purpose of this analysis was changed to 10,456 housing units to account for the 2029 interpolated housing growth assumed under the two Specific Plans along with the City's RHNA allocation.

Table ES-3 Projected Specific Plan Units

Specific Plan	Total Net Units
Downtown TOD sites	627
Golden State Specific Plan sites	1,815
Total	**2,442**
Existing GP Units (from Table ES-2)	7,673
New Total with Specific Plans	**10,115**
RHNA Surplus/(Shortfall)	**1,343**

Housing Opportunity Sites

The opportunity sites include 19 locations that have the greatest potential to accommodate the RHNA's housing growth allocated for Burbank. Twelve of the opportunity sites are located in the proposed Downtown TOD Specific Plan area and seven sites are located in the proposed Golden State Specific Plan area. The locations of these sites of shown in Figure 3 of the *Project Description*.

Safety Element Update

The Safety Element Update will ensure consistency with the Housing Element Update and will comply with recent State legislation and guidelines (including Assembly Bill 162, Senate Bill 1241, Senate Bill 99, Assembly Bill 747, Senate Bill 1035 and Senate Bill 379). Amendments incorporate data and maps, address vulnerability to climate change; incorporate policies and programs from the City's Hazard Mitigation Plan and the Greenhouse Gas Reduction Plan, as well as partial or full integration of other City documents and programs (including but not limited to: Ready Burbank and the Emergency Survival Program). Key areas of the Burbank Safety Element Update include updated flooding and fire hazard maps, emergency response and preparedness, especially as they relate to the City's projected climate change exposure, and vulnerability. The Safety Element amendments will be submitted to the California State Board of Forestry and Fire Protection (CalFire) for review.

Environmental Justice Update

SB 1000 states that revisions or adoption of two or more elements of a general plan on or after January 1, 2018 trigger a requirement to "adopt or review the Environmental Justice Element, or the environmental justice goals, policies, and objectives in other elements." Environmental justice goals, policies, and objectives must aim to reduce health risks to DACs, promote civil engagement, and prioritize the needs of these communities. Environmental justice goals, policies, and objectives must aim to reduce health risks to DACs, promote civic engagement, and prioritize the needs of these communities. Appendix B includes a list of the updates to policies and implementation measures for the Safety, Land Use, Open Space and Conservation, Air Quality and Climate Change, Noise, and Mobility Elements of the Burbank2035 General Plan. These updates focus on the inclusion of disadvantaged communities in decision making procedures as well as increasing protections for these communities.

Mobility Element Update

SB 743 requires the Governor's Office of Planning and Research (OPR) to establish new metrics for determining the significance of transportation impacts of projects within transit priority areas (TPAs) and allows OPR to extend use of the metrics beyond TPAs. OPR selected VMT as the preferred transportation impact metric and applied their discretion to require its use statewide. In order to comply with this requirement, the Mobility Element would be updated to require the use of VMT analysis according to OPR guidelines.

Project Objectives

- Meet the City's fair share, plus a reasonable buffer, of the regional housing need to accommodate projected population growth within the City and region consistent with the Regional Housing Needs Assessment (RHNA) allocation
- Conserve and enhance the quality of existing housing and neighborhoods
- Provide housing sites that accommodate a range of housing types to meet the diverse needs of existing and future residents
- Continue to facilitate the development of housing affordable to all economic segments of the community and make inroads in addressing the City's jobs-to-housing imbalance
- Focus on removing governmental constraints to the maintenance, improvement, and development of housing
- Promote non-discrimination and fair and equal housing opportunities for all persons

Alternatives

As required by the California Environmental Quality Act (CEQA), this EIR examines alternatives to the Housing and Safety Element Update. Studied alternatives include the following two alternatives. Based on the alternatives analysis, Alternative 1 was determined to be the environmentally superior alternative.

- Alternative 1: No Project
- Alternative 2: City Build-Out

Alternative 1 (No Project) involves continued implementation of the existing 2013-2021 Housing Element and a continued growth rate predicted by SCAG to yield 3,591 units by 2029. The No Project Alternative assumes that the City's existing plan and policies would continue to accommodate development in accordance with existing land use designations. Ultimately, this alternative would not fulfill the State requirements regarding updates to the Housing Element and SCAG's RHNA allocation. Due to the limitation placed on development in the city under existing plans and policies, the No Project Alternative would not be consistent with Objective 1, which aims to accommodate employment, housing, and population growth projections forecasted through the planning horizon year of 2029 and Objective 4, which aims to facilitate affordable housing options throughout the city.

Alternative 2 (City Build-Out) involves the buildout of 18,600 units, which would bring the City residential units up to the limit established by Measure One. This would be 8,144 units over the proposed update to the Housing Element. These units would be placed in the Medium Density, High Density and Various Commercial zone districts. No units would be proposed in the Low Density Residential district. This alternative would increase density throughout the city and in order to accommodate this increase in density, housing would be located within the commercial corridors. Alternative 2 would not fulfill Objective 2 as it would change the character of existing neighborhoods by increasing the density.

Refer to Section 6, *Alternatives*, for the complete alternatives analysis.

Areas of Known Controversy

The EIR scoping process did not identify any areas of known controversy for the proposed project. Responses to the Notice of Preparation of a Draft EIR and input received at the EIR scoping meeting held by the City are summarized in Section 1, *Introduction*.

Issues to be Resolved

The proposed Project would require approval by the California Department of Housing and Community Development (HCD).

Issues Not Studied in Detail in the EIR

As indicated in the Initial Study, there is no substantial evidence that significant impacts would occur to the following issue areas: Aesthetics, Agricultural Resources, Energy, Land Use and Planning, Mineral Resources, and Wildfire. Impacts to Air Quality, Biological Resources, Cultural Resources, Geology/Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Land Use/Planning, Noise, Population/Housing, Public Services, Recreation, Transportation/Traffic, Tribal Cultural Resources, and Hydrology/Utilities were found to be potentially significant and are addressed in this EIR.

Summary of Impacts and Mitigation Measures

Table ES-4 summarizes the environmental impacts of the Project, proposed mitigation measures, and residual impacts (the impact after application of mitigation, if required). Although distinct from mitigation measures, project design features (PDFs) are also listed because they will be included as conditions of approval by the City to avoid potential biological and geological impacts. Impacts are categorized as follows:

- **Significant and Unavoidable.** An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the project is approved per §15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated.** An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- **Less than Significant.** An impact that may be adverse, but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Table ES-4 Summary of Environmental Impacts, Mitigation Measures, and Residual Impacts

Impact	Mitigation Measure (s)	Residual Impact
Air Quality		
Impact AQ-1. The Housing Element Update would not conflict with the growth assumptions or policies of applicable air quality plans such as SCAQMD's 2016 Air Quality Management Plan. Impacts would be less than significant.	None required.	Less than significant.
Impact AQ-2. Construction activities and operation of housing development under the Housing Element Update could not result in a cumulatively considerable net increase of any criteria pollutant for which the region is a non-attainment area under applicable federal or state ambient air quality standards. Air quality studies and project-specific emissions reduction measures would be required for large projects proposed under the Housing Element Update. Impacts would be less than significant with mitigation.	**AQ-1 Construction Emissions Reduction.** For projects that would include any of the following: demolition of more 13,500 square feet of building area, greater than 5,000 cubic yards of soil cut/fill, greater than 5-acres of graded area, or use of more than ten pieces of heavy-duty construction equipment and 150 truck trips on any given day during demolition, site clearing, or grading, prior to issuance of a permit to construct and at the expense of the project applicant, the City shall retain a qualified air quality analyst to prepare an Air Quality Impact Analysis to analyze construction emissions . The air quality analysis shall demonstrate that project emissions are less than applicable SCAQMD regional and LST thresholds, and as applicable may include, but is not limited to, the following mitigations: ▪ Off-road diesel-powered construction equipment greater than 50 horsepower shall meet the USEPA Tier 4 emission standards, where available. In the event that Tier 4 engines are not available for any off-road equipment larger than 100 horsepower, that equipment shall be equipped with a Tier 3 engine or an engine that is equipped with retrofit controls to reduce exhaust emissions of NO_x and DPM to no more than Tier 3 levels unless certified by engine manufacturers or the onsite air quality construction mitigation manager that the use of such devices is not practical for specific engine types. ▪ All construction equipment shall be outfitted with best available control technology (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. ▪ Consistent with SCAQMD Rule 403, construction contractors shall identify and implement best available dust control measures during active construction operations capable of generating dust. **AQ-2 Operations Emissions Reduction.** For any project that would include more than 553 single-family residential units, 710 multi-family residential units, or any equivalent combination thereof, prior to issuance of a permit to construct, and at the expense of the project applicant, the City shall retain a qualified air quality analyst to prepare	Less than significant with mitigation.

Impact	Mitigation Measure (s)	Residual Impact
	an Air Quality Impact Analysis to analyze operational emissions The air quality analysis shall demonstrate that project emissions are less than applicable SCAQMD regional and LST thresholds, and as applicable may include, but is not limited to, the following mitigation: ▪ Implementation of a Transportation Demand Management Plan. ▫ Installation of additional electric vehicle charging stations ▫ Public infrastructure improvements (e.g., bus stop shelter improvements) ▫ Carpool or ridesharing programs ▫ Subsidized transit costs ▫ Unbundled parking costs ▫ Bicycle amenities (storage, showers, lockers, etc.) ▪ Use of all-electric appliances (i.e., elimination of natural gas service) ▪ Use solar or low emission water heaters that exceed Title 24 requirements ▪ Increased walls and attic insulation beyond Title 24 requirements ▪ Required use of electric lawnmowers, leaf-blowers, and chainsaws	
Impact AQ-3. The Project would not expose sensitive receptors to substantial pollutant concentrations. Impacts would be less than significant.	None required.	Less than significant.
Biological Resources		
Impact BIO-1. The project could result in direct or indirect impacts to nesting birds through vegetation removal and construction during the nesting season. Impacts would be less than significant with mitigation incorporated.	**BIO-1 Nesting Bird Avoidance.** Prior to issuance of grading permits for individual housing developments that will include disturbance of vegetation, structures, or other areas where bird nests could be present, implement the following requirements for any construction activities that would occur during the bird breeding season (February 1 through August 31): ▪ Applicant shall submit a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of grading or construction activities. The nesting bird pre-construction survey shall be conducted on foot on the construction site, including a 100-foot buffer, and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practical. The survey shall be conducted by a qualified biologist familiar with the identification of avian species known to occur in southern California and a copy of the study shall be submitted to the Community Development Department and Building and Safety Division. The cost to hire a qualified biologist shall be borne entirely by the developer/project applicant. ▪ If nests are found, an avoidance buffer shall be demarcated by a qualified biologist with bright orange	Less than significant with mitigation.

Impact	Mitigation Measure (s)	Residual Impact
	construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No parking, storage of materials, or construction activities shall occur within this buffer until the biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist. ▪ A survey report shall be prepared by the qualified biologist documenting and verifying compliance with the above requirements and applicable State and Federal regulations protecting birds that shall be submitted to the City of Burbank. The qualified biologist shall serve as a construction monitor during those periods when construction activities would occur near active nest areas to ensure that no inadvertent impacts on these nests would occur.	
Cultural Resources/Tribal Cultural Resources		
Impact CUL-1. Development accommodated by the Housing Element Update could adversely affect known and previously unidentified historic-period resources. Impacts to historic-period resources would be less than significant after mitigation.	**CUL-1 Historic Resource Protection.** The project proponent shall either: a) Demonstrate to the satisfaction of the City of Burbank Community Development Department that the project does not contain any historic resources either due to the site being vacant, age of the structures on the site, or due to the result of the Program LU-4 Historic Preservation Plan determination; or b) For any structure determined to be eligible for listing on a federal, State, or local registry, or currently listed, as a historic resource (typically determined as a result of the Program LU-4 Historic Preservation Plan process), project activities shall comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Standards). During the project planning phase (prior to any construction activities), input shall be sought from a qualified architectural historian or historic architect meeting the *Secretary of the Interior's Professional Qualifications Standards* to ensure project compliance with the Standards for Rehabilitation. The cost of this assessment shall be borne entirely by the project applicant. This input will ensure the avoidance of any direct/indirect physical changes to historical resources. The findings and recommendations of the architectural historian or historic architect shall be documented in a Standards Project Review Memorandum at the schematic design phase. This memorandum shall analyze all project components for compliance with the Standards for Rehabilitation. Project components to be analyzed shall include direct and indirect changes to historical resources and their	Less than significant with mitigation.

Impact	Mitigation Measure (s)	Residual Impact
	setting. should design modifications be necessary to bring projects into compliance with the Standards for Rehabilitation, the memorandum will document those recommendations, which will then become conditions of project approval. The report will be submitted to the City for review and approval.	
Impact CUL-2. Development accommodated by the Housing Element Update could adversely affect identified and previously unidentified prehistoric cultural resources. Impacts would be less than significant with the implementation of mitigation, as well as the policies outlined in the Historic Resource Management Ordinance, Program LU-4: Historic Preservation Plan.	**CUL-2(a) Unanticipated Discovery of Archaeological Resources.** Prior to the commencement of any ground-disturbing activities, a qualified archaeologist shall be retained to conduct a Worker's Environmental Awareness Program (WEAP) training on archaeological sensitivity for all construction personnel. The training shall be conducted by an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology. Archaeological sensitivity training will include a description of the types of cultural material that may be encountered, cultural sensitivity issues, regulatory issues, and the proper protocol for treatment of the materials in the event of a find. In the event of the unanticipated discovery of archaeological materials, the project applicant shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by a qualified archaeologist. Construction shall not resume until the qualified archaeologist has conferred with the City on the significance of the resource. If it is determined that the discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, avoidance and preservation in place shall be the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Treatment Plan shall be prepared and implemented by the qualified archaeologist in consultation with the City that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The City shall consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered. **CUL-2(b) Archaeological and Native Monitors.** During initial ground disturbing activities related to the proposed project, both a qualified archaeologist and a locally affiliated Native American monitor shall monitor	Less than significant with mitigation.

Impact	Mitigation Measure (s)	Residual Impact
	construction activities within the project site in accordance with City of Burbank Historic Resource Management Ordinance, Program LU-4: Historic Preservation Plan. Initial ground disturbance is defined as disturbance within previously undisturbed native soils. If, during initial ground disturbance, the qualified archaeologist determines that the construction activities have little or no potential to impact cultural resources (e.g., excavations are within previously disturbed, non-native soils, or within soil formation not expected to yield cultural resources deposits), the qualified archaeologist may recommend that monitoring be reduced or eliminated, in consultation with the Native American monitor.	
Impact CUL-3. Ground-disturbing activities associated with development under the Housing Element Update could result in damage to or destruction of human burials. Impacts would be less than significant with the implementation of mitigation, as well as the policies outlined in the Historic Resource Management Ordinance, Program LU-4: Historic Preservation Plan.	**CUL-2(a)** and **CUL-2(b).**	Less than significant with mitigation.
Impact CUL-4. Development accommodated by the Housing Element Update could adversely impact tribal cultural resources. Impacts would be less than significant with implementation of mitigation and through consultation conducted pursuant to the requirements of AB-52.	**CUL-2(a)** and **CUL-2(b).**	Less than significant with mitigation.
Geology/Soils		
Impact GEO-1. Development accommodated under the Housing Element Update could adversely affect previously unidentified paleontological resources. Impacts to paleontological resources would be less than significant with mitigation incorporated.	**GEO-1(a) Paleontological Resources Management.** Housing development projects that require ground disturbance (grading, trenching, foundation work, and other excavations) beyond five feet below ground surface (bgs) on a site located in an area mapped as Quaternary young (Holocene) alluvial fan deposits (Qyf, Qf) where it was not previously excavated beyond five feet bgs, shall comply with the following requirements prior to the commencement of any construction activities: 1. The Developer shall retain a qualified professional paleontologist to review project plans to determine if underlying paleontologically sensitive units (i.e., early Holocene to Pleistocene age deposits [Qoa]) could be impacted. If potentially significant impacts are identified, the qualified professional paleontologist shall prepare and implement a Paleontological Resources Mitigation Plan (PRMP). The PRMP shall describe mitigation recommendations, including paleontological monitoring procedures; communication protocols to be followed in the event	Less than significant with mitigation.

Impact	Mitigation Measure (s)	Residual Impact
	that an unanticipated fossil discovery is made during project development; and preparation, curation, and reporting requirements. 2. As part of a PRMP, require the Qualified Paleontologist or his or her designee to conduct Worker Environmental Awareness Program (WEAP) training for the general contractor, subcontractor(s), and all construction workers participating in earth disturbing activities, regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by on-site personnel. The WEAP shall be fulfilled at the time of a preconstruction meeting. A training acknowledgment form must be signed by all workers who receive the training and retained by the City. In the event a fossil is discovered by construction personnel, all work in the immediate vicinity of the find shall cease and the qualified paleontologist shall be contacted to evaluate the find before re-starting work in the area. If it is determined that the fossil(s) is (are) scientifically significant, the qualified paleontologist shall complete the mitigation outlined below (GEO-1[b]) to mitigate impacts to significant fossil resources. Conduct monitoring during ground construction activities (i.e., grading, trenching, foundation work, and other excavations). Monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who meets the minimum qualifications per standards set forth by the SVP (2010), which includes a B.S. or B.A. degree in geology or paleontology with one year of monitoring experience and knowledge of collection and salvage of paleontological resources. The duration and timing of the monitoring shall be determined by the Qualified Paleontologist and the location and extent of proposed ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the Qualified Paleontologist may recommend that monitoring be limited to periodic spot-checking or cease entirely. **GEO-1(b) Fossil Discovery, Preparation and Curation.** If a paleontological resource is discovered at any time during earthmoving activities, the construction contractor shall ensure that all construction activities in the immediate area of the find are halted and diverted, and the City is contacted. A qualified paleontologist shall be retained (if not done so already) to evaluate the discovery. The paleontologist shall have the authority to temporarily direct, divert or halt construction activity around the find until it is assessed for scientific significance and collected to ensure that the fossil(s) can be removed in a safe and timely manner. Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the	

Impact	Mitigation Measure (s)	Residual Impact
	Natural History Museum of Los Angeles County [NHMLAC]) along with all pertinent field notes, photos, data, and maps.	
Greenhouse Gas Emissions		
Impact GHG-1. The Housing Element update is consistent with State plans to meet the GHG reduction target established by SB 32 (State Scoping Plan), the 2020-2045 RTP/SCS, and the Burbank2035 Greenhouse Gas Reduction Plan. As the Housing Element update is consistent with all State, regional, and local plans to reduce GHG emissions, impacts related to GHG emissions would be less than significant.	None required.	Less than significant.
Hazards and Hazardous Materials		
Impact HAZ-1. Demolition and construction activities associated with development accommodated by the Housing Element Update may result in the release of potentially hazardous materials and may occur within 0.25 mile of a school. However, compliance with regional and federal regulations related to hazardous materials and compliance with the Safety Element policies would minimize the risk of releases and exposure to these materials. Impacts would be less than significant.	None required.	Less than significant.
Impact HAZ-2. Implementation of the Housing and Safety Element Update would accommodate development on or near hazardous materials sites. However, compliance with applicable regulations relating to site cleanup would minimize hazards from development on contaminated sites. Impacts would be less than significant.	**HAZ-2 Property Assessment – Phase I and II ESA's.** Prior to the start of construction (demolition or grading), the project applicant will retain a qualified environmental professional (EP), as defined by ASTM E-1527, to complete one of the following: If the project is not listed in Appendix F, DTSC (GeoTracker) or SWRCB (EnviroStor) resources, then the proponent will retain a qualified environmental consultant, California Professional Geologist (PG) or California Professional Engineer (PE), to prepare a Phase I ESA. If the Phase I ESA identifies recognized environmental conditions or potential concern areas, a Phase II ESA will be prepared. If the project is listed in Appendix F, DTSC (GeoTracker) or SWRCB (EnviroStor) resources, then the project proponent will retain a qualified environmental consultant, California Professional Geologist (PG) or California Professional Engineer (PE), to prepare a Phase II ESA to determine whether the soil, groundwater, and/or soil vapor has been impacted at concentrations exceeding regulatory screening levels for commercial/industrial land uses. Any and all recommended actions included in the Phase II ESA will be followed. This may include the	Less than significant with mitigation.

Impact	Mitigation Measure (s)	Residual Impact
	preparation of a Soil Management Plan (SMP) for Impacted Soils (see below) prior to project construction and/or completion of remediation at the proposed project prior to onsite construction. The completed ESAs will be submitted to the lead agency for review and approval prior to issuance of building or grading permits. **Soil Management Plan Requirements:** The SMP, or equivalent document, will be prepared to address on-site handling and management of impacted soils or other impacted wastes, and reduce hazards to construction workers and offsite receptors during construction. The plan will be submitted to the lead agency, and must establish remedial measures and/or soil management practices to ensure construction worker safety, the health of future workers and visitors, and the off-site migration of contaminants from the site. These measures and practices may include, but are not limited to: ▪ Stockpile management including stormwater pollution prevention and the installation of BMPs ▪ Proper disposal procedures of contaminated materials ▪ Monitoring and reporting ▪ A health and safety plan for contractors working at the site that addresses the safety and health hazards of each phase of site construction activities with the requirements and procedures for employee protection ▪ The health and safety plan will also outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction. The lead agency will review and approve the development site Soil Management Plan for Impacted Soils prior to demolition and grading (construction). **Soil Remediation Requirements:** If soil present within the construction envelope at the development site contains chemicals at concentrations exceeding hazardous waste screening thresholds for contaminants in soil (California Code of Regulations [CCR] Title 22, Section 66261.24), the project proponent will retain a qualified environmental consultant (PG or PE), to conduct additional analytical testing and recommend soil disposal recommendations, or consider other remedial engineering controls, as necessary. The qualified environmental consultant will utilize the development site analytical results for waste characterization purposes prior to offsite transportation or disposal of potentially impacted soils or other impacted wastes. The qualified environmental consultant will provide disposal recommendations and arrange for proper disposal of the waste soils or other impacted wastes (as necessary), and/or provide recommendations for remedial engineering controls, if appropriate. The project applicant will review and approve the disposal recommendations prior to transportation of waste soils	

Impact	Mitigation Measure (s)	Residual Impact
	offsite, and review and approve remedial engineering controls, prior to construction. Remediation of impacted soils and/or implementation of remedial engineering controls, may require additional delineation of impacts; additional analytical testing per landfill or recycling facility requirements; soil excavation; and offsite disposal or recycling. The lead agency will review and approve the development site disposal recommendations prior to transportation of waste soils offsite and review and approve remedial engineering controls, prior to construction.	
Impact HAZ-3. The Burbank2035 General Plan includes a Safety Element Update and policies for the Burbank Airport Influence Area that address excessive noise and safety for the vicinity. Therefore, the proposed project would not result in safety hazards or excessive noise for people residing or working in the project area and impacts would be less than significant.	None required.	Less than significant.
Impact HAZ-4. The Burbank2035 General Plan and Housing and Safety Element policy updates address maintaining a Local Hazard Mitigation Plan and coordination with adjacent jurisdictions. Additionally, traffic created by the proposed rezoning would not interfere with an evacuation plan or cause increased traffic congestion. Therefore, the proposed project would not result in interference with these types of adopted plans. Impacts would be less than significant.	None required	Less than significant.
Noise		
Impact NOI-1. Construction associated with housing development accommodated under the Housing Element Update would be required to comply with the allowed daytime construction hours regulated by the Burbank Municipal Code and, therefore, would not occur during nighttime hours when people are more sensitive to noise. While larger developments could involve construction with lengthy durations, substantial soil movement, use of large, heavy-duty equipment, and/or pile driving near noise-sensitive land uses that would exceed the applicable FTA daytime noise limits, implementation of Mitigation	**NOI-1(a) Shielding and Silencing.** Power construction equipment (including combustion engines), fixed or mobile, shall be equipped with noise shielding and silencing devices consistent with manufacturer’s standards or the Best Available Control Technology. Equipment shall be properly maintained, and the project applicant or owner shall require any construction contractor to keep documentation on-site during any earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer’s specifications. **NOI-1(b) Enclosures and Screening.** All outdoor fixed mechanical equipment shall be enclosed or screened from off-site noise-sensitive uses. The equipment enclosure or screen shall be impermeable (i.e., solid material with minimum weight of 2 pounds per square feet) and break	Less than significant with mitigation.

Impact	Mitigation Measure (s)	Residual Impact
Measures NOI-1(a) through NOI-1(j) would reduce construction noise levels to below thresholds. Therefore, impacts generated by temporary construction noise would be less than significant with mitigation.	the line-of-sight from the equipment and off-site noise-sensitive uses. **NOI-1(c) Construction Staging Areas.** Construction staging areas shall be located as far from noise-sensitive uses as reasonably possible and feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints. **NOI-1(d) Smart Back-Up Alarms.** Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels. Alternatively, back-up alarms shall be disabled and replaced with human spotters to ensure safety when mobile construction equipment is moving in the reverse direction. **NOI-1(e) Equipment Idling.** Construction vehicles and equipment shall not be left idling for longer than five minutes when not in use. **NOI-1(f) Workers' Radios.** All noise from workers' radios, including any on-site music, shall be controlled to a point that they are not audible at off-site noise-sensitive uses. **NOI-1(g) Use of Driven Pile Systems.** Driven (impact), sonic, or vibratory pile drivers shall not be used, except in locations where the underlying geology renders alternative methods infeasible, as determined by a soils or geotechnical engineer and documented in a soils report. **NOI-1(h) Temporary Sound Barriers.** Temporary sound barriers, such as walls or sound blankets, shall be positioned between construction activities and noise-sensitive uses when construction equipment are located within a line-of-sight to and within 500 feet of off-site noise-sensitive uses. Sound barriers shall break the line-of-sight between the construction noise source and the receiver where modeled levels exceed applicable standards. Placement, orientation, size, and density of acoustical barriers shall be specified by a qualified acoustical consultant. **NOI-1(i) Noise Complaint Response.** Project applicants shall designate an on-site construction project manager who shall be responsible for responding to any complaints about construction noise. This person shall be responsible for responding to concerns of neighboring properties about construction noise disturbance and shall be available for responding to any construction noise complaints during the hours that construction is to take place. They shall also responsible for determining the cause of the noise complaint (e.g., bad silencer) and shall require that reasonable measures be implemented to correct the problem. A toll-free telephone number and email address shall be posted in a highly visible manner on the construction site at all times and provided in all notices (mailed, online website, and construction site postings) for receiving questions or complaints during construction and shall also include procedures requiring that the on-site construction manager to respond to callers and email messages. The on-site construction	

Impact	Mitigation Measure (s)	Residual Impact
	project manager shall be required to track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction and shall notify the City's Community Development Director of each complaint occurrence. **NOI-1(j) Project-Specific Construction Noise Study.** A Construction Noise Study, prepared by a qualified noise expert to meet the requirements herein, shall be required for housing development projects located within 500 feet of noise-sensitive land uses identified in the Burbank2036 General Plan Noise Element (i.e., residences, parks, motels, hotels, movies studios, school, and hospitals), and that have one or more of the following characteristics: ▪ Two subterranean levels or more (generally more than 20,000 cubic yards of excavated soil material; ▪ Construction durations of 18 months or more (excluding interior finishing); ▪ Use of large, heavy-duty equipment rated 300 horsepower or greater; ▪ The potential for pile driving; or ▪ Located within 1,000 feet of other construction projects with overlapping construction schedules. The Construction Noise Study shall characterize sources of construction noise, quantify noise levels at noise-sensitive uses (e.g., residences, parks, motels, hotels, movies studios, school, and hospitals) and identify measures to reduce noise exposure. The Construction Noise Study shall identify reasonably available noise reduction devices or techniques to reduce noise levels to acceptable levels and/or durations including through reliance on any relevant federal, state or local standards or guidelines or accepted industry practices. Noise reduction devices or techniques may include but not be limited to silencers, enclosures, sound barriers, and/or placement of restrictions on equipment or construction techniques (e.g., alternative installation methods to pile driving such as cast-in-place systems or pile cushioning). Each measure in the Construction Noise Study shall identify anticipated noise reductions at noise-sensitive land uses. Project applicants shall be required to comply with all requirements of Mitigation Measures NOI-1a through NOI-1f in addition to any additional requirements identified and recommended by the Construction Noise Study and shall maintain proof that notice of, as well as compliance with, the identified measures have been included in contractor agreements.	
Impact NOI-2. Housing development accommodated under the Housing Element Update could include mechanical equipment (i.e., HVAC), delivery and trash trucks, and other noise-generating activities. However, such activities would be typical of the urban environment. In addition, on-site activities would be required to	None required.	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
comply with applicable noise standards in the Burbank Municipal Code. Furthermore, while housing development would generate vehicle trips in the City, the increase in mobile noise would not result in a perceptible 3-dBA increase. Therefore, permanent noise increases due to operation of the Housing Element Update would be less than significant.		
Impact NOI-3. Housing development accommodated under the Housing Element Update is not anticipated to involve operational activities that would result in substantial vibration levels (e.g., use of heavy equipment). However, construction activities under the Housing Element Update, specifically pile driving, could potentially generate vibration exceeding thresholds for buildings or structures susceptible to damage (e.g., historic structures). However, temporary-construction related vibration impacts would be less than significant with mitigation.	**NOI-3 Vibration Control Plan.** For construction activities involving vibratory rollers within 50 feet of a structure or pile drivers (impact or sonic) within 140 feet of a structure, the applicant shall prepare a Vibration Control Plan prior to the commencement of construction activities. The Vibration Control Plan shall be prepared by a licensed structural engineer and shall include methods required to minimize vibration, including, but not limited to: ▪ Alternative installation methods for pile driving (e.g., pile cushioning, drilled piles, cast-in-place systems) within 140 feet of a building to reduce impacts associated with seating the pile ▪ Vibration monitoring prior to and during pile driving operations occurring within 140 feet of a building ▪ Use of rubber-tired equipment rather than metal-tracked equipment ▪ Avoiding the use of vibrating equipment when allowed by best engineering practices The Vibration Control Plan shall include a pre-construction survey letter establishing baseline conditions at potentially affected extremely fragile buildings/historical resources and/or residential structures. The survey letter shall determine conditions that exist prior to the commencement of construction activities for use in evaluating potential damages caused by construction. Fixtures and finishes susceptible to damage shall be documented photographically and in writing prior to construction. The survey letter shall provide a shoring design to protect such buildings and structures from potential damage. At the conclusion of vibration causing activities, the qualified structural engineer shall issue a follow-up letter describing damage, if any, to impacted buildings and structures. The letter shall include recommendations for any repair, as may be necessary, in conformance with the Secretary of the Interior Standards. Repairs shall be undertaken and completed by the contractor and monitored by a qualified structural engineer in conformance with all applicable codes including the California Historical Building Code (Part 8 of Title 24). A Statement of Compliance signed by the applicant and owner shall be submitted to the City' Building and Safety Division at plan check and prior to the issuance of any	Less than significant with mitigation.

Impact	Mitigation Measure (s)	Residual Impact
	permit. The Vibration Control Plan, prepared as outlined above shall be documented by a qualified structural engineer, and shall be provided to the City upon request.	
Impact NOI-4. Housing developments accommodated under the Housing Element Update could be exposed to intermittent noise levels from overhead flight patterns from several airports in the city or its vicinity. While the project would not emphasize building housing in the immediate vicinity of the airport, all residential development would, nonetheless, be required to incorporate noise insulation features per State and local standards to reduce interior noise levels to below 45 dBA. Therefore, the impact of airport or airstrip operations on new development would be less than significant.	None required.	Less than significant.
Cumulative Impacts.	**NOI-C1 Construction Building Permits.** The City's Community Development Department shall review the locations and anticipated construction timing for housing development projects with respect to the locations of other pending development projects. The City shall stagger the issuance of building permits for development projects with overlapping construction schedules that meet both of the following criteria: ▪ The development project is located within 1,000 feet of another separate development project; and ▪ The development project is located 500 feet or less from a sensitive receiver. In these instances, the Community Development Department shall review the findings of any site-specific noise and vibration studies pertaining to future development projects to compare their locations to sensitive receivers identified therein.	Less than significant with mitigation.
Population/Housing		
Impact POP-1. Reasonably foreseeable development under the Housing Element Update would be consistent with the 2021-2029 RHNA and the 2035 General Plan but would exceed SCAG 2020 RTP/SCS population forecasts. The Housing Element Update would update the 2035 General Plan to be consistent with Burbank's RHNA, and SCAG's next RTP/SCS would incorporate the City's General Plan updates. the City would have adequate housing capacity to facilitate the 10,456 new units assumed as part of the Housing	None required.	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
Element Update and would not exceed the City's current capacity of infrastructure. The Housing Element Update would not induce unplanned growth directly or indirectly, and impacts would be less than significant.		
Public Services		
Impact PS-1. Development accommodated by the Housing Element Update would result in an increase in population in the city, which would increase demand for fire protection services, resulting in the need for additional and/or expanded fire protection facilities. However, development impact fees and sales taxes would offset Housing Element update demand for new fire protection facilities, the need for which would be due to cumulative growth in the area. The locations of future new or expanded facilities is not known at this point in time and environmental impacts would be speculative. However, compliance with applicable codes and regulations and compliance with General Plan goals and policies would reduce potential impacts related to fire protection and emergency medical services to a less than significant impact.	None required.	Less than significant.
Impact PS-2. Development accommodated under the Housing Element Update would result in an increase in population in the city, which would increase demand for police protection services, resulting in the need for additional staff and equipment. However, conformance with General Plan policies and programs related to police protection would require the City to continue to provide funding and adequate staffing, facilities, equipment, and technology to meet existing and projected service demands and response times. Therefore, this impact would be less than significant.	None required.	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
Impact PS-3. Development accommodated by the Housing Element Update would result in an increase in population in the planning area, resulting in the need for additional and/or expanded school facilities. However, Government Code 65995 (b) would require funding for the provision or expansion of new school facilities to offset impacts from new residential. Additionally, accommodating growth pursuant to the RHNA may require adjustments to the rate of inter-district permits. This impact would be less than significant.	None required.	Less than significant.
Impact PS-4. Development accommodated under the Housing Element Update would result in an increase in population in the city, which would increase demand for parks and recreation services. However, conformance with General Plan policies and programs related to open space would require provision of new parks and recreation facilities and ongoing parkland maintenance to prevent deterioration. Therefore, this impact would be less than significant.	None required	Less than significant
Impact PS-5. Housing development accommodated under the Housing Element Update would result in an increase in population in the city, which would increase demand for other public facilities, resulting in the need for additional and/or expanded facilities. The Burbank Library would meet the City's library needs projected under the Housing Element Update. Therefore, impacts related to the City's library system would be less than significant.	None required.	Less than significant.
Recreation		
Impact REC-1. Development facilitated by the Housing and Safety Element Update may require the construction or expansion of additional parks and open space, but implementation of policies contained in the Burbank2035 General Plan and BMC would avoid or adequately mitigate adverse physical effects on the environment. This impact would be less than significant.	None required.	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
Transportation		
Impact TRA-1. The Housing Element Update is consistent with all applicable program, plan, ordinance, and policy related to the transportation system. Therefore, impacts related to conflicts with applicable regulations would be less than significant.	None required.	Less than significant.
Impact TRA-2. The Housing Element Update would reduce VMT in the three target populations. However, it would not reduce VMT more than the required 15 percent. Therefore, impacts related to VMT would be significant and unavoidable.	Potential mitigation measures that would reduce the average total VMT per service population and average VMT per employee are generally project specific mitigation measures such as: ▪ Provide bicycle parking at employer locations ▪ Provide parking cash-out programs ▪ Provide car-sharing, bike sharing, and ride-sharing programs at employer locations ▪ Provide transit passes to employees ▪ Improve or increase transit accessibility to employer locations ▪ Improve pedestrian or bicycle networks, or transit service ▪ Provide traffic calming features on City roadways These mitigation measures can be applied at the project specific level but are not feasible at the program level for a housing element as they are beyond the scope of the document. Therefore, there is no feasible mitigation available to reduce the impacts.	Significant and unavoidable.
Impact TRA-3. The Housing Element Update does not include any development projects that could increase hazards due to design features. Therefore, impacts would be less than significant.	None required.	Less than significant.
Utilities/Service Systems (includes Hydrology & Water Supply)		
Impact UTIL-1. Reasonably foreseeable development under the proposed Project would require utility service and connections for water supply, wastewater conveyance, and stormwater conveyance, as well as telecommunications, electricity, and natural gas. Existing utility systems for water, electric power, natural gas, and telecommunications facilities in Burbank have sufficient capacity to serve reasonably foreseeable development. However, new connections to existing or expanded wastewater service systems would be required, and such connections could result in potentially significant	**UTIL-1 Sewer Service Constraints Analysis.** ▪ The City will conduct an analysis to identify any sewer service constraints to determine if there are any sewer capacity issues and any constraints in the City's wastewater system including assessment of system capacity relative to the locations of opportunity sites identified in the Housing Element Update. The analysis will identify upgrades necessary to mitigate the constraints in the system to ensure that individual housing development projects implemented under the Housing Element can be completed and that sufficient capacity and conveyance in the wastewater system exists. However, if a proposed development has a construction schedule that the City cannot accommodate, the developer may be responsible for performing the necessary sewer infrastructure upgrades per Burbank Municipal Code (BMC) 8-1-304.	Less than significant with mitigation.

Impact	Mitigation Measure (s)	Residual Impact
environmental effects. Nonetheless, impacts would be less than significant with mitigation.	▪ Based on the constraints identified in the analysis, the City's Public Works Department will prepare a nexus fee study to develop a fair share requirement in the form of a wastewater connection or similar project impact fee, which helps to pay for implementation of upgrades necessary to accommodate future development, including development of the opportunity sites where deficiencies in the system are identified to exist. Through the fee study, subsequent cost recovery fees applied to individual housing development projects will be based on a rough proportionality related to demands on the system reasonably attributed to the development project. ▪ In the event it is determined that necessary upgrades to serve a project cannot be completed by the City prior to project completion, the City may require the developer to perform the necessary sewer infrastructure upgrades (Per BMC 8-1-304) at cost to the developer, or may choose to enter into a reimbursement agreement so that a developer may fund and construct the improvements within the necessary timeframe with subsequent partial reimbursement. If the City and Developer mutually agree to enter into reimbursement agreement (approved as to form by the City Attorney and approved by the City Council), it would be administered by the City's Public Works Director on behalf of the City.	
Impact UTIL-2. Reasonably foreseeable development under the proposed Project would require a temporary recycled water supply during construction and a long-term water supply during operation and maintenance. Water supply would be provided by the City of Burbank, which purchases imported surface water from the Metropolitan Water District of Southern California and receives groundwater credits to supplement its purchased water supply with locally produced groundwater. Growth under the proposed Project is accounted for in the City of Burbank Urban Water Management Plan, as informed by the General Plan, and sufficient water supplies are available to serve reasonably foreseeable development. Potential impacts would be less than significant.	None required.	Less than significant.

Impact	Mitigation Measure (s)	Residual Impact
Impact UTIL-3. Wastewater generated in the City of Burbank is conveyed to and treated at the Burbank Water Reclamation Plant. Reasonably foreseeable development under the proposed project would increase wastewater generation commensurate with the increased population. Significant treatment capacity is currently available at the VWRP to treat increased wastewater generated as a result of the Project. However, based on the sewer generation rates that were calculated for the proposed Project, along with constraints within the City's treatment system, potentially significant impacts could result on a project-specific bases with no feasible mitigation at the current plan level. Therefore, impacts would be significant and unavoidable.	None feasible.	Significant and unavoidable.
Impact UTIL-4. Solid waste conveyance and disposal services in Burbank are provided by the Street and Solid Waste Division of Public Works, which transports solid waste to the City-owned and operated Burbank Landfill. Sufficient capacity is available at the Burbank Landfill to accommodate solid waste disposal volumes associated with reasonably foreseeable development under the proposed Project. Impacts would be less than significant.	None required.	Less than significant.

1 Introduction

This document is an Environmental Impact Report (EIR) for the Burbank Housing and Safety Element Update (hereafter referred to as the “Housing and Safety Element Update” or “Project”), which would apply to the entire geographic area located within the boundaries of the City of Burbank, which encompasses 17.1 square miles. The proposed Project involves an update to the Housing Element for the 2021-2029 planning period, along with minor updates to the Safety, Land Use, Open Space and Conservation, Air Quality and Climate Change, Noise, and Mobility Elements, and the incorporation of environmental justice policies into the City’s Burbank2035 General Plan. The Housing and Safety Element Update establishes programs, policies and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community, provides evidence of the City’s ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG), and identifies any rezoning program needed to reach the required housing capacity. The Project also includes necessary updates to the Safety Element triggered under State law by an update to the Housing Element.

The Housing Element Update would lay the foundation for achievement of the City’s fair share housing needs for approximately 10,456 additional units. Technical amendments would be made to the Safety Element to ensure consistency with the Housing Element Update and to achieve compliance with State, regional, and local policies and guidelines. The Safety Element Update includes measures to consider climate change, update hazard mitigation plans, updated flood hazard requirements. In addition, the Update to the Burbank2035 General Plan would consider environmental justice strategies to reduce pollution exposure, promote public facilities, promote food access, promote safe and sanitary homes, promote physical activity, reduce unique or compounded health risks, promote civic engagement, and prioritize the needs of disadvantaged communities.

This section discusses (1) the Project and EIR background; (2) the legal basis for preparing an EIR; (3) the scope and content of the EIR; (4) issue areas found not to be significant by the Initial Study; (5) the lead, responsible, and trustee agencies; and (6) the environmental review process required under the California Environmental Quality Act (CEQA). The proposed Project is described in detail in Section 2, *Project Description*.

1.1 Environmental Impact Report Background

The City of Burbank distributed a Notice of Preparation (NOP) of the EIR for a 30-day agency and public review period starting on February 22, 2021 and concluding on March 23, 2021. In addition, the City held an EIR Scoping Meeting on February 27, 2021. The meeting, held from 11:00 AM to 12:30 PM, was aimed at providing information about the proposed Project to members of public agencies, interested stakeholders and residents/community members. The meeting was conducted online via zoom.

In addition, the City of Burbank distributed a recirculated NOP of the EIR for an extended 30-day agency and public review period starting on February 22, 2021 and concluding on April 15, 2021. The original NOP stated that the EIR would analyze the addition of 8,800 units under the RHNA that was conducted for the Housing Element Update. However, it was determined that the EIR would analyze 10,456 units to account for the 2029 interpolated housing growth assumed under the two Specific Plans along with the City's RHNA allocation. Therefore, the NOP was recirculated on March 17, 2021, with the higher number. In addition, the City held a second EIR Scoping Meeting on March 31, 2021. The meeting, held from 6:00 PM to 7:00 PM, was aimed at providing information about the proposed Project to members of public agencies, interested stakeholders and residents/community members. The meeting was conducted online via zoom.

The City received letters from five agencies in response to the NOP and recirculated NOP during the public review period, as well as various verbal comments during the two EIR Scoping Meetings. The NOP and recirculated NOP are presented in Appendix A of this EIR, along with the NOP responses received for both notices, whereas the Initial Study that was prepared for the Project is included in Appendix B of this EIR. Table 1-1 on the following page summarizes the content of the letters and verbal comments and where the issues raised are addressed in the EIR.

1.2 Purpose and Legal Authority

The Housing and Safety Element Update requires the discretionary approval and adoption by the Burbank City Council; therefore, the Project is subject to the environmental review requirements of CEQA. In accordance with Section 15121 of the *CEQA Guidelines* (California Code of Regulations, Title 14), the purpose of this EIR is to serve as an informational document that:

> "...will inform public agency decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project."

This EIR has been prepared as a program EIR pursuant to Section 15168 of the *CEQA Guidelines*. A program EIR is appropriate for a series of actions that can be characterized as one large project and are related in connection with issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program. As stated in Section 15146 of the *CEQA Guidelines*:

> "An EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or a local general plan should focus on the secondary effects that can be expected to follow from the adoption or amendment, but the EIR need not be as detailed as an EIR on the specific construction projects that might follow."

This EIR is to serve as an informational document for the public and City of Burbank decision makers. The process will include public hearings before the Planning Board and City Council to consider certification of a Final EIR and approval of the proposed Project.

Table 1-1 NOP Comments and EIR Response

Commenter	Comment/Request	How and Where It Was Addressed
Agency Comments		
California Department of Fish and Wildlife (CDFW)	Requests maps of areas including the City's Significant Ecological Areas (SEA), wildlife corridors, and aquatic and riparian resources.	Comments are addressed in Section 4.2, *Biological Resources* and in Appendix B, Initial Study
	Recommendations for biological impacts, mitigation measures, and alternatives.	

Commenter	Comment/Request	How and Where It Was Addressed
California Department of Transportation (Caltrans)	Recommendations for vehicle miles traveled (VMT) analysis.	Comments are addressed in Section 4.11, *Transportation*.
Native American Heritage Commission (NAHC)	Recommendations for tribal and cultural resource impacts, including Senate Bill 18 and Assembly Bill 52 requirements and mitigation measures.	Comments are addressed in Section 4.3, *Cultural Resources and Tribal Cultural Resources*.
Southern California Association of Governments (SCAG)	Requests environmental documentation, when available, and the full public comment period for review.	Notices are addressed in Section 1, *Introduction*.
	Recommends the use of informational resources, including the Connect SoCal Demographics and Growth Forecast Technical Report, to ensure the proposed Project is consistent with the adopted 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).	Comments are addressed in Section 4.8, *Population and Housing*.
South Coast Air Quality Management District (SCAQMD)	Recommends use of CEQA Air Quality Handbook and SCAQMD resources for guidance in preparing air quality and greenhouse gas analyses. Also recommends using the California Emissions Estimator Model (CalEEMod) for analysis.	Comments are addressed in Section 4.1, *Air Quality*.
	Recommendations for air quality impacts and mitigation measures.	
Organization Comments		
Southwest Regional Council of Carpenters	Requests any and all information referring or related to the Project.	All public records act requests are handled by the City of Burbank and do not constitute comments under CEQA.
	Requests notice of any and all issued notices under the CEQA and the Planning and Zoning Law.	Notices are addressed in Section 1, *Introduction.*

1.3 Scope and Content

This EIR addresses impacts identified by the Initial Study to be potentially significant. The following issues were found to include potentially significant impacts and have been studied in the EIR:

- Air Quality
- Biological Resources
- Cultural Resources/Tribal Cultural Resources
- Geology/Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Noise
- Population/Housing

- Public Services
- Recreation
- Transportation
- Utilities/Service Systems

The EIR was prepared using pertinent City policies and guidelines, certified EIRs and adopted CEQA documents, and other background documents. A full reference list is contained in Section 7, *References and Preparers*.

The alternatives section of the EIR (Section 6) was prepared in accordance with Section 15126.6 of the *CEQA Guidelines* and focuses on alternatives that are capable of eliminating or reducing significant adverse effects associated with the Project while feasibly attaining most of the basic Project objectives. In addition, the alternatives section identifies the "environmentally superior" alternative among the alternatives assessed. The alternatives evaluated include the CEQA-required "No Project" alternative and two alternative development scenarios for the Project area.

The level of detail contained throughout this EIR is consistent with the requirements of CEQA and applicable court decisions. Section 15151 of the *CEQA Guidelines* provides the standard of adequacy on which this document is based. The *Guidelines* state:

> An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of the proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection, but for adequacy, completeness, and a good faith effort at full disclosure.

1.4 Issues Not Studied in Detail in the EIR

Table 1-2 summarizes issues from the environmental checklist that were addressed in the Initial Study (Appendix B). As indicated in the Initial Study, there is no substantial evidence that significant impacts would occur in any of these issue areas.

Table 1-2 Issues Not Studied in the EIR

Issue Area	Initial Study Findings
Aesthetics	Compliance with Burbank2035 General Plan goals and policies intended to protect scenic vistas and visual resources would ensure that the Housing and Safety Element Update does not have a substantial adverse effect on scenic vistas, specifically, protection of the Verdugo Mountains. Furthermore, development under the proposed Project would primarily occur in already developed and urbanized areas of the City where scenic vistas are not present and would not be affected. Impacts would be less than significant.
	No existing or proposed State scenic highways are located in Burbank and therefore, development under the Housing and Safety Element Update would not result in substantial damage to scenic resources in a State scenic highway. No impact would occur.
	Compliance with the City's development standards and transitional height requirements, and the objective design standards included in the multiple Specific Plans throughout Burbank would ensure that the Housing and Safety Element Update does not conflict with applicable zoning and other regulations governing scenic quality. Impacts would be less than significant.

Issue Area	Initial Study Findings
	Due to the urbanized nature of the City where high levels of light and glare are already present and compliance with applicable regulations in the BMC, impacts would be less than significant.
Agricultural and Forestry Resources	The Housing and Safety Element Update encompasses the entire geographic area located within the boundaries of the City of Burbank, which lacks agricultural lands or forests. No impact to these resources would occur.
Energy	Compliance with Federal and State regulations regarding construction activities, and the requirements of the California Energy and California Green Building Standard Codes would prevent environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy. In addition, the Housing and Safety Element Update would prioritize development in areas that encourage the use of alternative modes of transportation, which would minimize the potential of the proposed Project to result in the wasteful or unnecessary consumption of vehicle fuels. Impacts would be less than significant.
	Compliance with applicable local and State energy efficiency regulations and standards would ensure that the Housing and Safety Element Update would not conflict with renewable energy and energy efficiency plans adopted by the City. Impacts would be less than significant.
Hydrology/Water Quality	Compliance with requirements in the Burbank Municipal Code (BMC) and regulations under the Federal Clean Water Act would ensure that the Housing and Safety Element Update does not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality. Impacts would be less than significant.
	Implementation of appropriate construction Best Management Practices (BMP) would minimize impacts on groundwater resources. In addition, the Housing and Safety Element Update would prioritize development on infill areas that are already urbanized and largely covered with impervious surfaces and therefore would not interfere substantially with groundwater recharge. Impacts would be less than significant.
	Development under the Housing and Safety Element Update would be prioritized on infill areas that are primarily paved and/or developed with structures. Therefore, development under the proposed Project would not be anticipated to substantially alter drainage patterns or alter drainage patterns to an extent that would result in substantial erosion, siltation, or flooding on- or off-site. In addition, BMPs and implementation of a Standard Urban Storm Water Mitigation Plan would be required for development to reduce polluted runoff. Impacts would be less than significant.
	Compliance with Section 1612 and Appendix G of the California Building Code (CBC) would ensure that the Housing and Safety Element Update does not substantially alter existing drainage patterns to an extent that would redirect or impede flood flows. In addition, the proposed Project would emphasize new development on infill sites in urbanized areas that are already primarily paved and/or developed with structures. Impacts would be less than significant.
	While there is the potential for flooding to impact portions of the City, future developments under the Housing and Safety Element Update would not involve the storage or use of significant quantities of hazardous materials, and construction of new structures would be required to comply with CBC regulations for flooding. Therefore, risks related to the release of hazardous materials due to inundation are minimal and impacts would be less than significant.
Mineral Resources	Development under the Housing and Safety Element Update would primarily occur in existing commercial and residential areas, which are not compatible with or used for mineral extraction, and it is not anticipated that development under the Housing and Safety Element Update would occur on lands presently in use for mineral extraction. Furthermore, the proposed Project updates do not include any policies that relate to mineral resources or conflict with existing General Plan policies and City ordinances regulating the conservation and use of mineral resources. Therefore, the proposed Project would not result in a loss of availability of a known or locally important mineral resource. No impact would occur.

Issue Area	Initial Study Findings
Wildfire	Future development plans under the Housing and Safety Element Update would be submitted for review and approval to the Burbank Fire Department to ensure that reasonably foreseeable development has adequate emergency access and escape routes in compliance with existing City regulations. Furthermore, the proposed Project would not introduce features or policies that would preclude implementation of or alter these policies or procedures or encourage development in Very High Fire Hazard Severity Zones (VHFHSZ). Impacts would be less than significant.
	Since the Housing and Safety Element Update would generally direct development away from the hillside areas with fire hazards and reasonably foreseeable development would be required to comply with fire safety provisions established by the BMC, development under the proposed Project would not pose a substantial risk to people or structures due to wildland fires. Impacts would be less than significant.
	The Housing and Safety Element Update would not encourage development in the residential areas subject to wildfire risk, and development would occur in areas that are well-served by existing roadways and utilities infrastructure. Therefore, development under the proposed Project would not require additional roads, fuel breaks, emergency water sources, power lines or other utilities that would exacerbate fire risk. Impacts would be less than significant.

1.5 Lead, Responsible, and Trustee Agencies

The *CEQA Guidelines* define lead, responsible and trustee agencies. The City of Burbank is the lead agency for the Project because it holds principal responsibility for approving the Project.

A responsible agency refers to a public agency other than the lead agency that has discretionary approval over the Project. The California Department of Housing and Community Development (HCD) reviews and determines whether the proposed Housing Element Update complies with State law. Although no other agencies have direct approval authority over the Housing Element Update, several other agencies potentially have approval authority over individual developments that could be reasonably anticipated under the Housing and Safety Element Update. These agencies include, but are not limited to, California Department of Transportation, California Department of Fish and Wildlife (CDFW), the South Coast Air Quality Management District, and the Los Angeles Regional Water Quality Control Board. The EIR will also be submitted to these agencies for review and comment.

A trustee agency refers to a State agency having jurisdiction by law over natural resources affected by a project. CEQA Guidelines Section 15386 designates four agencies as trustee agencies: CDFW with regards to fish and wildlife, native plants designated as rare or endangered, game refuges, and ecological reserves; the State Lands Commission with regard to State-owned “sovereign” lands, such as the beds of navigable waters and State school lands; the California Department of Parks and Recreation with regard to units of the State park system; and, the University of California with regard to sites within the Natural Land and Water Reserves System. As a policy level document, implementation of the proposed Project would not directly propose development in areas where trustee agencies have jurisdiction. However, potential future development projects facilitated by the Housing and Safety Element Update could be located on lands under trustee agency jurisdiction, at which time subsequent environmental review would occur.

1.6 Environmental Review Process

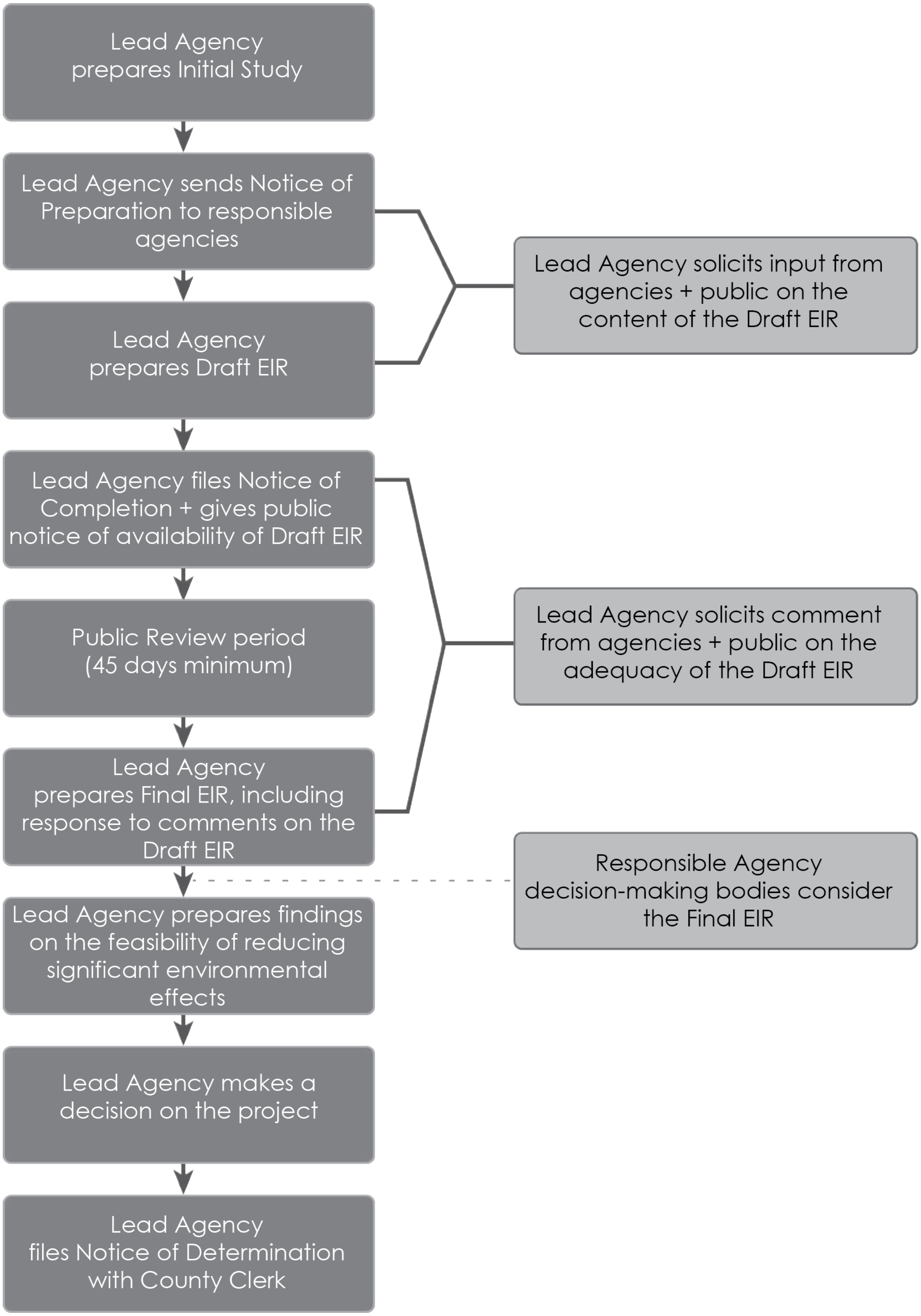
The environmental impact review process, as required under CEQA, is summarized below and illustrated in Figure 1-1. The steps are presented in sequential order.

1. **Notice of Preparation (NOP) and Initial Study**. After deciding that an EIR is required, the lead agency (City of Burbank) must file a NOP soliciting input on the EIR scope to the State Clearinghouse, other concerned agencies, and parties previously requesting notice in writing (*CEQA Guidelines* Section 15082; Public Resources Code Section 21092.2). The NOP must be posted in the County Clerk's office for 30 days. The NOP may be accompanied by an Initial Study that identifies the issue areas for which the project could create significant environmental impacts.
2. **Draft EIR Prepared.** The Draft EIR must contain: a) table of contents or index; b) summary; c) project description; d) environmental setting; e) discussion of significant impacts (direct, indirect, cumulative, growth-inducing and unavoidable impacts); f) a discussion of alternatives; g) mitigation measures; and h) discussion of irreversible changes.
3. **Notice of Availability/Notice of Completion (NOA/NOC).** The lead agency must file a NOC with the State Clearinghouse when it completes a Draft EIR and prepare a Public NOA of a Draft EIR. The lead agency must place the NOA in the County Clerk's office for 30 days and send a copy of the NOA to anyone requesting it (*CEQA Guidelines* Section 15087; Public Resources Code Section 21092). Additionally, public notice of Draft EIR availability must be given through at least one of the following procedures: a) publication in a newspaper of general circulation; b) posting on and off the project site; and c) direct mailing to owners and occupants of contiguous properties. The lead agency must solicit input from other agencies and the public and respond in writing to all comments received (CEQA Guidelines Section 15087). The minimum public review period for a Draft EIR is 30 days. When a Draft EIR is sent to the State Clearinghouse for review, the public review period must be 45 days unless the State Clearinghouse approves a shorter period (CEQA Guidelines Section 15105; Public Resources Code 21091).
4. **Final EIR.** Upon circulation and receipt of comments on the Draft EIR, the lead agency must prepare a Final EIR. A Final EIR must include: a) the Draft EIR; b) copies of comments received during public review; c) list of persons and entities commenting; and d) responses to comments, including any revisions to the text in the body of the Draft EIR based on comments received, if applicable.
5. **Certification of Final EIR.** Prior to making a decision on a proposed project, the lead agency must certify that: a) the Final EIR has been completed in compliance with CEQA; b) the Final EIR was presented to the decision-making body of the lead agency; and c) the decision-making body reviewed and considered the information in the Final EIR prior to approving a project (*CEQA Guidelines* Section 15090).
6. **Lead Agency Project Decision.** The lead agency may a) disapprove the project because of its significant environmental effects; b) require changes to the project to reduce or avoid significant environmental effects; or c) approve the project despite its significant environmental effects, if the proper findings and statement of overriding considerations are adopted (*CEQA Guidelines* Sections 15042 and 15043).
7. **Findings/Statement of Overriding Considerations**. For each significant impact of the project identified in the EIR, the lead agency must find, based on substantial evidence, that either: a) the project has been changed to avoid or substantially reduce the magnitude of the impact; b) changes to the project are within another agency's jurisdiction and such changes have or should

be adopted; or c) specific economic, social, or other considerations make the mitigation measures or project alternatives infeasible (*CEQA Guidelines* Section 15091). If an agency approves a project with unavoidable significant environmental effects, it must prepare a written Statement of Overriding Considerations that sets forth the specific social, economic, or other reasons supporting the agency's decision.

8. **Mitigation Monitoring Reporting Program.** When the lead agency makes findings on significant effects identified in the EIR, it must adopt a reporting or monitoring program for mitigation measures that were adopted or made conditions of project approval to mitigate significant effects.
9. **Notice of Determination (NOD).** The lead agency must file a NOD after deciding to approve a project for which an EIR is prepared (*CEQA Guidelines* Section 15094). A local agency must file the NOD with the County Clerk. The NOD must be posted for 30 days and sent to anyone previously requesting notice. Posting of the NOD starts a 30-day statute of limitations on CEQA legal challenges (Public Resources Code Section 21167[c]).

Figure 1-1 Environmental Review Process



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2 Project Description

This section describes the proposed Burbank Housing and Safety Element Update[1] (hereafter referred to as “Housing and Safety Element Update” or “Project”), including the Project applicant, the Project area and existing land uses, major Project characteristics, Project objectives, and the discretionary actions needed for approval.

2.1 Project Proponent

City of Burbank - Community Development Department
150 North Third Street
Burbank, California 91502

2.2 Lead Agency Contact Person

Shipra Rajesh, Associate Planner
City of Burbank
Community Development Department
150 North Third Street
Burbank, California 91502
(818) 238-5250

2.3 Project Location

The Housing and Safety Element Update would apply to the entire geographic area located within the boundaries of the City of Burbank, which encompasses 17.1 square miles. Burbank is located in the central portion of Los Angeles County, approximately 12 miles north of downtown Los Angeles. The City is generally bounded by the Verdugo Mountains to the northeast, the City of Glendale to the southeast, the City of Los Angeles to the south and west. The City is bisected by the Interstate 5 (I-5) Freeway and the Metrolink Commuter Rail. Figure 2-1 and Figure 2-2, below, illustrate the location of the City in a regional and local context.

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[1] The proposed Project will also include updates to the Safety Element and the various other elements of the General Plan to incorporate the goals, policies and objectives related to Environmental Justice. These updates are required for compliance with State law and to ensure consistency with the updated Housing Element. The title of the proposed Project is “Burbank Housing and Safety Element Update.”

Figure 2-1 Regional Location

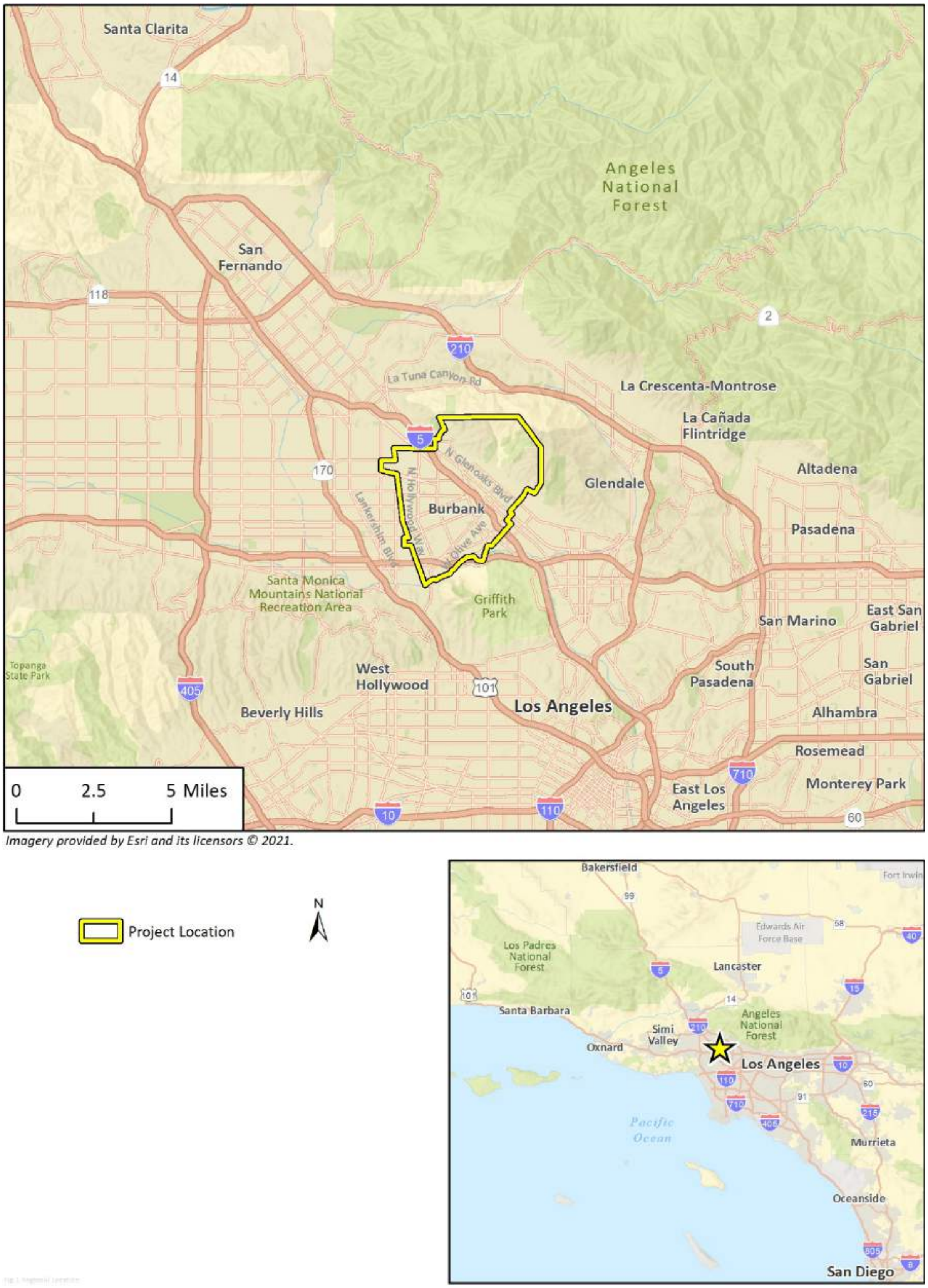

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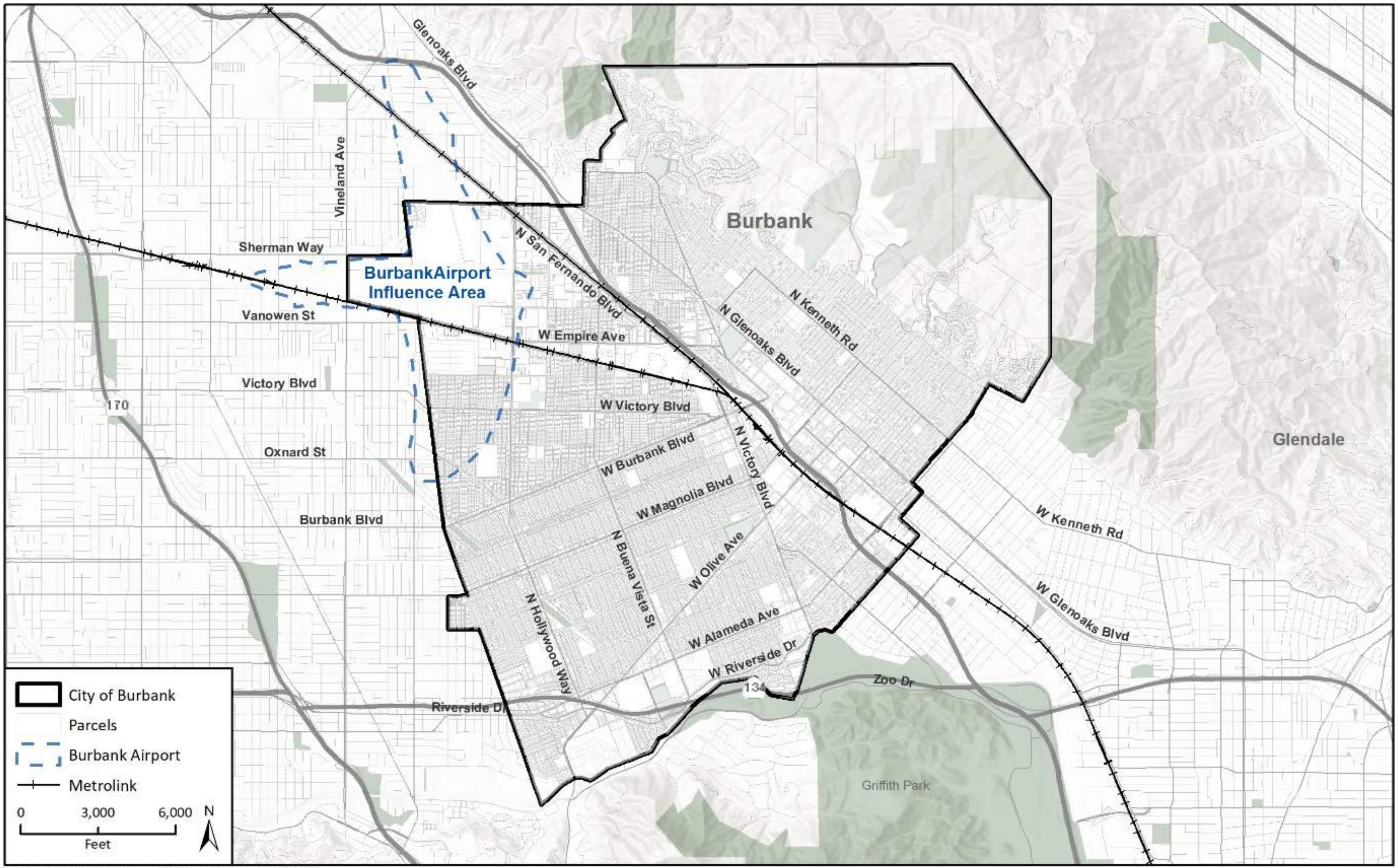
Figure 2-2 City of Burbank



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2.4 Existing Area Characteristics

2.4.1 Current Land Use Designation and Zoning

The Burbank2035 General Plan includes a variety of land use designations, including Low, Medium, and High Density Residential; Corridor and Regional Commercial; four specific plan commercial areas and two commercial/industrial areas; Open Space; Institutional; and Airport. Land uses in Burbank's various neighborhoods and commercial areas include single-family and multi-family residential housing, mixed-use development, public spaces like parks and playgrounds, and some industrial land uses. The Zoning Code includes various zones that correspond to the GP land uses, including residential, commercial, media district, business, auto dealership, industrial, airport, railroad, cemetery, and open space.

2.4.2 Land Uses in Surrounding Cities

The City is generally bounded by the Verdugo Mountains to the northeast, the City of Glendale to the southeast, the City of Los Angeles to the south and the west. The Verdugo Mountains consist of largely open space with parks and trails for recreational activities. The City of Glendale is a suburban city with large residential areas and regional commercial sites. Directly south in the City of Los Angeles is the neighborhood of Hollywood with residences, commercial areas, and recreational facilities such as Griffith Park, golf courses, and public parks. To the west is the San Fernando Valley area of the City of Los Angeles. This area consists of suburban neighborhoods with commercial areas and residences.

2.5 Project Characteristics

The Housing and Safety Element Update would apply to the entire geographic area located within the boundaries of the City of Burbank, which encompasses 17.1 square miles. The Project would involve an update to the Housing Element of the City's Burbank2035 General Plan for the 2021-2029 planning period, along with minor updates to the Safety, Land Use, Open Space and Conservation, Air Quality and Climate Change, Noise, and Mobility Elements, and the incorporation of environmental justice policies into the Burbank2035 General Plan as required by State law. The proposed Housing Element Update establishes programs, policies and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community; provides evidence of the City's ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG); and identifies any rezoning program needed to reach the required housing capacity. The Safety Element update is triggered by various new provisions of State law, and the environmental justice policies would be added pursuant to the requirements of Senate Bill 1000 (SB 1000) which requires that revisions or adoption of two or more elements of a general plan on or after January 1, 2018 "adopt or review the Environmental Justice Element, or the environmental justice goals, policies, and objectives in other elements" to focus on the inclusion of disadvantaged communities (DACs) in decision making procedures as well as increasing protections for these communities.

2.5.1 Housing Element Update

The Housing Element is comprised of the following major components:

- Review of effectiveness of existing Housing Element
- Assessment of existing and projected housing needs
- Identification of resources – financial, land, administrative
- Evaluation of constraints to the development of housing
- Housing Plan – goals, policies, and programs

The Housing Element Update would provide a framework for accommodating new housing at all levels of affordability that is within access to transit, jobs, services, and open spaces within the 8-year planning period of October 2021-October 2029. New housing units may occur anywhere in the City where residential uses are permitted, as well as in areas that may be rezoned in the future to allow for multi-family residential and mixed-use residential of adequate density to meet State-required housing production and affordability targets as discussed below.

2.5.2 RHNA Allocation

SCAG has allocated the region's 1,341,827 housing unit growth needs to each city and county through a process called the Regional Housing Needs Assessment (RHNA) allocation. The RHNA represents the minimum number of housing units that the City is required to plan for in its housing element by providing "adequate sites" through the Burbank2035 General Plan and zoning residential capacity. As shown in Table 2-1, Burbank's RHNA allocation for the 2021-2029 planning period (6th RHNA cycle) is 8,772 units, which is distributed among four income categories (HCD 2020). Additionally, the City is required to provide a sufficient buffer beyond that required by the RHNA to ensure that adequate site capacity exists throughout the eight-year planning period.

Table 2-1 RHNA Percentage of Income Distribution

Income Level	Percent of Area Median Income (AMI)	Units	Percent
Very Low	0-50%	2,553	29%
Low	51-80%	1,418	16%
Moderate	81-120%	1,409	16%
Above Moderate	>120%	3,392	39%
Total	--	**8,772**	**100%**

Source: SCAG 2021

Table 2-2 shows the estimated number and affordability level of housing units to accommodate the City's RHNA under the existing General Plan and zoning, including projects that are entitled and pending entitlement, specified housing opportunity sites, Accessory Dwelling Units (ADUs) expected to be developed over the course of the planning period, and units produced through the City's committed assistance program. As shown in Table 2-2, these sources total 7,673, which falls short of the RHNA allocation by 1,099 units.

Table 2-2 Estimated Net Housing Units for the City of Burbank

		Income Distribution			
Sites/Projects	**Total Net Units**	**Very Low**	**Low**	**Moderate**	**Above Moderate**
2021 – 2029 RHNA Targets	**8,772**	**2,553**	**1,418**	**1,409**	**3,392**
Entitled Projects	934	7	6	83	838
Pending Entitlement	1,489	227	31	0	1,202
Opportunity Sites (Zoning in place)	3,640	1,988	1,068	292	292
Accessory Dwelling Units (ADUs)[1]	1,600	384	704	32	480
Committed Assistance[2]	10	10	0	0	0
Total Site Capacity	**7,673**	**4,425**		**436**	**2,812**
RHNA Surplus/(Shortfall)	**(1,099)**	**+454**		**(973)**	**(580)**

[1] ADUs are small backyard units that are either attached or detached from a single-family home.

[2] Committed Assistance units are units that the City has provided a legally enforceable agreement to provide. This is through an ongoing partnership with the Burbank Housing Corporation. See the Housing Element for further discussion.

To make up for this shortfall of 1,099 units, the Housing Element includes a housing program to rezone additional opportunity sites through adoption of two specific plan projects: the Downtown Transit-Oriented-Development Specific Plan (Downtown TOD) and the Golden State Specific Plan (GSSP) (see Figure 2-3 for the Specific Plan locations and opportunity sites). Adoption of these Specific Plans will provide the necessary zoning, objective development standards, and processing procedures to facilitate the production of the shortfall of housing units required to accommodate the City's RHNA during the Housing Element planning period. The zone changes required by these Specific Plans will be adopted in 2022-2023, or within three years of the start of the planning period as required by State law.

Table 2-3 shows the number of units expected from the rezoning of the Specific Plan areas. With the additional rezone sites the City would exceed the RHNA requirement by 1,343 units with an additional 2,442 units accommodated. The State requires jurisdictions to create a sufficient buffer in the Housing Element sites inventory beyond that required by the RHNA to ensure that adequate site capacity exists throughout the eight-year planning period. The Notice of Preparation that was circulated on March 17, 2021 for the proposed Project included an estimated growth of 10,088 housing units based on the City's RHNA allocation and 15 percent buffer. However, the estimated growth for the purpose of this analysis was changed to 10,456 housing units to account for the 2029 interpolated housing growth assumed under the two Specific Plans along with the City's RHNA allocation.

Table 2-3 Projected Specific Plan Units

Specific Plan	Total Net Units
Downtown TOD sites	627
Golden State Specific Plan sites	1,815
Total	**2,442**
Existing GP Units (from Table 2-2)	7,673
New Total with Specific Plans	**10,115**
RHNA Surplus/(Shortfall)	**1,343**

Housing Element Opportunity Sites

The opportunity sites summarized in Table 2-3 include 19 locations that have the greatest potential to accommodate the RHNA's housing growth allocated for Burbank. Twelve of the opportunity sites are located in the proposed Downtown TOD Specific Plan area and seven sites are located in the proposed Golden State Specific Plan area. The locations of these sites are shown in Figure 2-3. The zone changes where applicable are shown on Table 2-4.

Table 2-4 Rezoning in Housing Opportunity Sites

	Project	APNs	Gross Acres	Current Zoning District	Current Residential Density Units/Acre	Proposed Zoning Uses	Rezone?
TOD Plan Projects							
1	TOD-1 Carl's Jr	2460-010-010 2460-010-011 2460-010-012 2460-010-013	0.31	NSFC (North San Fernando Commercial)	43	Residential (max. 43 du/acre)	No
		2460-010-014 2460-010-033 2460-010-036	0.98	NSFC (North San Fernando Commercial)	27	Residential (max. 27 du/acre) Commercial (max. 1.0 FAR)	No
		Total	**1.29**				
2	TOD-2 Kmart	2460-006-045 2460-007-036	6.43	NSFC (North San Fernando Commercial)	27	Residential (max. 27 du/acre) Commercial (max. 1.0 FAR)	No
3	TOD-3 Caltrans/IHOP	2460-021-017 2460-021-018 2460-021-019 2460-021-020 2460-021-027 2460-021-028	2.87	NSFC (North San Fernando Commercial)	27	Residential (max. 27 du/acre) Commercial (max. 1.0 FAR)	No
4	TOD-4 Old Ikea	2460-023-044 2460-023-045 2460-023-046 2460-023-047 2460-023-060	12.06	PD (Planned Development)	87	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	No
		2460-031-008 2460-031-016 2460-031-018 2460-031-019 2460-031-029 2460-031-044 2460-031-045	1.55	BCC-2 (Burbank Center Commercial Limited Business)	87	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	No
		Total	**13.61**				
5	TOD-5 Ashley Home/El Pollo	2460-023-056 2460-023-057	2.71	PD (Planned Development)	87	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	No

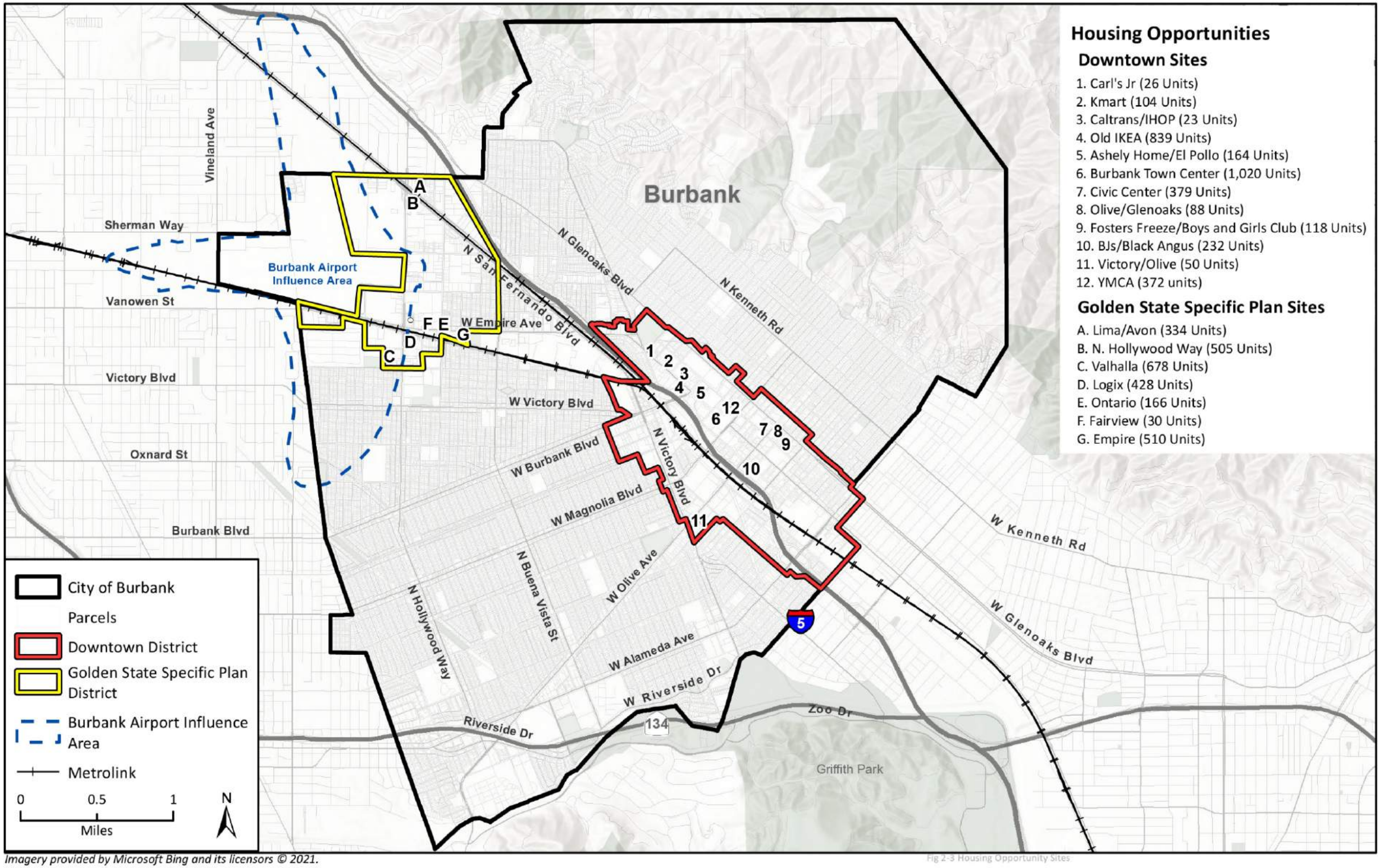
	Project	APNs	Gross Acres	Current Zoning District	Current Residential Density Units/Acre	Proposed Zoning Uses	Rezone?
6	TOD-6 Burbank Town Center	2460-023-048 2460-023-049 2460-023-050 2460-023-052 2460-023-054 2460-023-063 2460-023-064 2460-023-996	16.75	PD (Planned Development)	87	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	No
7	TOD-7 Civic Center	2453-008-900 2453-009-902 2453-008-903 2453-008-905 2453-008-908 2453-008-910 2453-008-911 2453-008-912	4.68	PD (Planned Development)	0	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	Yes
		2455-021-906	1.56	R-4 (Residential Multiple Medium Density) and C-3 Commercial General Business	0	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	Yes
		Total	**6.24**				
8	TOD-8 Olive/ Glenoaks	2453-014-002 2453-014-003 2453-014-008 2453-014-024 2453-014-025	0.50	BCC-3 (Burbank Center Commercial General Business)	87	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	No
		2453-014-012 2453-014-014 2453-014-022 2453-014-023 2453-014-026 2453-014-029	1.05	BCC-2 (Burbank Center Commercial Limited Business)	87	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	No
		Total	**1.55**				
9	TOD-9 Fosters Freeze/ Boys and Girls Club	2453-021-026 2453-021-027 2453-021-029 2453-021-030	0.74	BCC-3 (Burbank Center Commercial General Business)	87	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	No
		2453-021-032 2453-021-033 2453-021-035 2453-021-041 2453-021-046 2453-021-062	1.20	BCC-2 (Burbank Center Commercial Limited Business)	43	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	Yes
		Total	**1.94**				

	Project	APNs	Gross Acres	Current Zoning District	Current Residential Density Units/Acre	Proposed Zoning Uses	Rezone?
10	TOD-10 BJs/Black Angus	2453-011-029 2453-018-017	3.83	BCC-2 (Burbank Center Commercial Limited Business)	87	Residential (max. 87 du/acre) Commercial (max. 2.5 FAR)	No
11	TOD-11 Victory/Olive	2451-016-004 2451-016-011 2451-016-012 2451-016-013 2451-016-014	4.30	BCCM (Burbank Center Commercial Manufacturing)	27	Residential (max. 27 du/acre) Commercial (max. 1.0 FAR)	No
12	TOD-12 YMCA	2460-034-021 2460-035-005 2460-035-007 2460-035-008	0.88	BCC-2 (Burbank Center Commercial Limited Business)	87		Yes
		2460-035-001 2460-035-003	1.07	BCC-3 (Burbank Center Commercial General Business)	87		Yes
		2460-035-014 2460-035-016 2460-035-017 2460-035-018	1.50	PD (Planned Development)	87		Yes
		Total	**2.66**				
GSSP Projects							
A	GSSP-1 Lima/Avon	2466-001-015 2466-001-016 2466-001-022 2466-001 023 2466-001-024 2466-001-025 2466-001-026 2466-001-029 2466-001-030 2466-001 045 2466-001-046 2466-001-063 2466-001-064 2466-001-077 2466-001-081	4.00	M-2 (Manufacturing General Industries)	27 1.25 FAR	Residential (max. 120 du/acre) Commercial (2.0 FAR)	Yes

	Project	APNs	Gross Acres	Current Zoning District	Current Residential Density Units/Acre	Proposed Zoning Uses	Rezone?
B	GSSP-2 North Hollywood Way	2466-005-003 2466-005 013 2466-005 017 2466-005 018 2466-005-024 2466-005-025 2466-006-002 2466-006-003 2466-006-004 2466-006-005 2466-006-006 2466-006-007 2466-006-008 2466-006-009 2466-006-010 2466-006-011	5.28	M-2 (Manufacturing General Industries)	27 1.25 FAR	Residential (max. 120 du/acre) Commercial (4.5 FAR)	Yes
C	GSSP-3 Valhalla	2463-001-005 2463-001-006 2463-001-007 2463-001-008 2463-001-011 2463-001-012	8.10	M-1 (Manufacturing Limited Industries)	27 1.25 FAR	Residential (max. 120 du/acre) Commercial (2.0 FAR)	Yes
D	GSSP-4 Logix	2463-010-001	4.46	M-2 (Manufacturing General Industries)	27 1.25 FAR	Residential (max. 120 du/acre) Commercial (2.0 FAR)	Yes
E	GSSP-5 Ontario	2464-004-036	1.73	PD (Planned Development)	58 1.25 FAR	Residential (max. 120 du/acre) Commercial (3.0 FAR)	Yes
F	GSSP-6 Fairview	2464-006-045	0.65	M-2 (Manufacturing General Industries)	58 1.25 FAR	Residential (max. 58 du/acre) Commercial (max. xx FAR))	No
G	GSSP-7 Empire	2464-001-002 2464-001-003 2464-001-007 2464-001-015 2464-001-019 2464-001-020 2464-001-021	6.40	M-2 (Manufacturing General Industries)	58 1.25 FAR	Residential (max. 58 du/acre) Commercial (2.0 FAR)	Yes
		2464-001-906	0.06	RR (Railroad)	0	Residential (max. 100 du/acre) Commercial (2.0 FAR))	Yes
		Total	**7.28**				

Note: As part of the rezoning and resulting 3,561 units, the City included a projection of 1.4 million square feet of new commercial space.

Figure 2-3 **Specific Plan and Housing Opportunity Locations**



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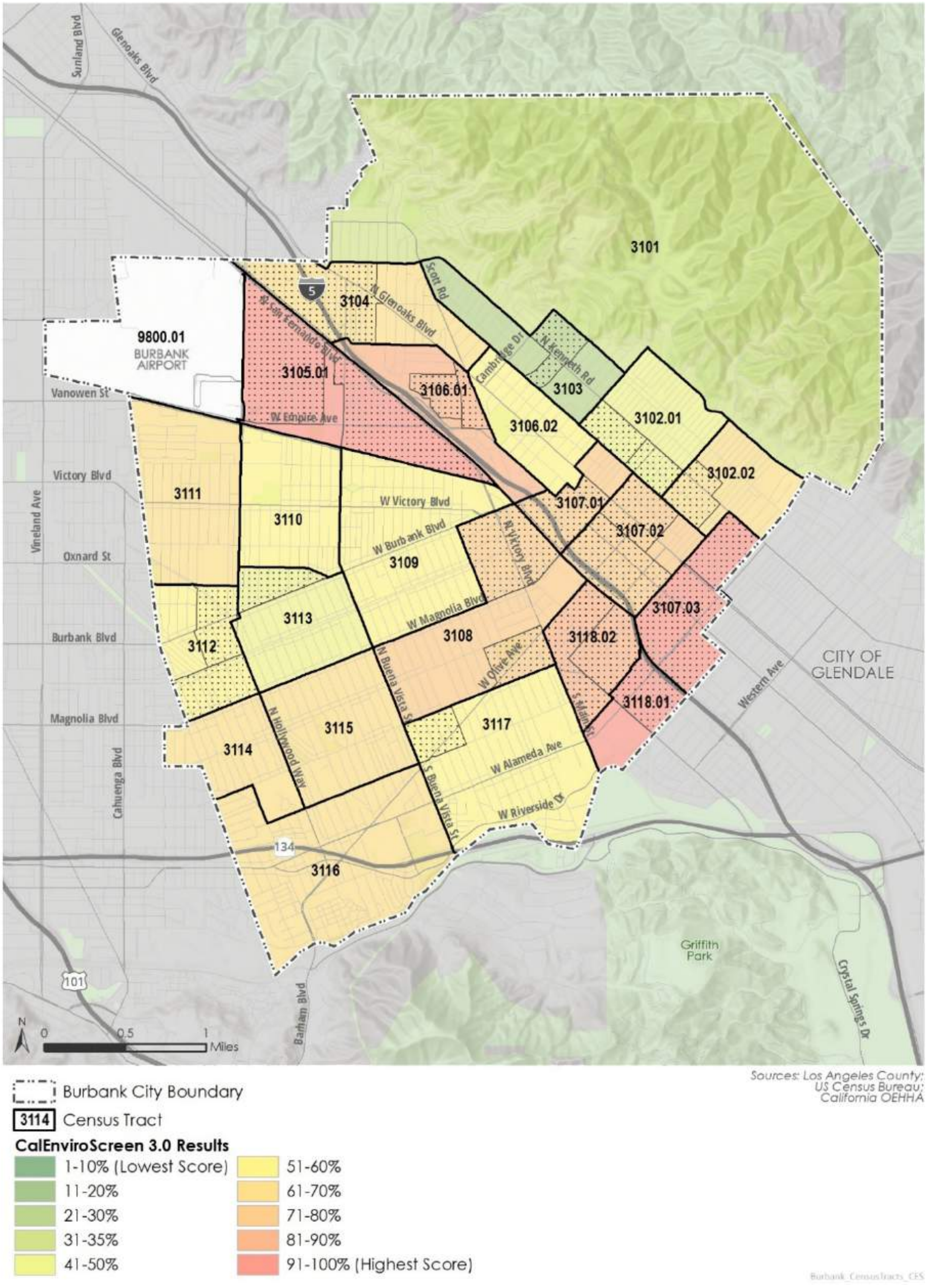
2.5.3 Safety Element Update

The Safety Element Update will ensure consistency with the Housing Element Update and will comply with recent State legislation and guidelines (including Assembly Bill 162, Senate Bill 1241, Senate Bill 99, Assembly Bill 747, Senate Bill 1035 and Senate Bill 379). Amendments incorporate data and maps, address vulnerability to climate change, incorporate policies and programs from the City’s Hazard Mitigation Plan and the Greenhouse Gas Reduction Plan, as well as partial or full integration of other City documents and programs (including but not limited to: Ready Burbank and the Emergency Survival Program). Key areas of the Burbank Safety Element Update include updated flooding and fire hazard maps, emergency response and preparedness, especially as they relate to the City’s projected climate change exposure, and vulnerability. The Safety Element amendments will be submitted to the California State Board of Forestry and Fire Protection (CalFire) for review.

2.5.4 Environmental Justice Update

SB 1000 states that revisions to or adoption of two or more elements of a general plan on or after January 1, 2018 trigger a requirement to “adopt or review the Environmental Justice Element, or the environmental justice goals, policies, and objectives in other elements.” Environmental justice goals, policies, and objectives must aim to reduce health risks to DACs, promote civic engagement, and prioritize the needs of these communities. The Project also includes minor updates to policies and implementation measures for the Safety, Land Use, Open Space and Conservation, Air Quality and Climate Change, Noise, and Mobility Elements of the Burbank2035 General Plan. These updates focus on the inclusion of disadvantaged communities in decision making procedures as well as increasing protections for these communities. Figure 2-4, provided below, displays CalEnviroScreen results for Burbank. There are several designated DACs identified in central, northwest, and southeast Burbank. These seven census tracts have overall scores that meet or exceed the minimum criteria for DAC designation based on pollution burden and population characteristics.

Figure 2-4 CalEnviroScreen – Disadvantaged Communities



Sources: Los Angeles County; US Census Bureau; California OEHHA

2.6 Project Objectives

- Meet the City’s fair share, plus a reasonable buffer, of the regional housing need to accommodate projected population growth within the City and region consistent with the Regional Housing Needs Assessment (RHNA) allocation
- Conserve and enhance the quality of existing housing and neighborhoods
- Provide housing sites that accommodate a range of housing types to meet the diverse needs of existing and future residents
- Continue to facilitate the development of housing affordable for all economic segments of the community and make inroads in addressing the City’s jobs-to-housing imbalance
- Focus on removing governmental constraints to the maintenance, improvement, and development of housing
- Promote non-discrimination and fair and equal housing opportunities for all persons

2.7 Required Approvals

The Project would require the following discretionary approvals:

- Certification of this EIR prepared for the proposed Project
- Adoption of the Housing Element Update for the 2021-2029 planning period
- Adoption of updates to the Safety Element
- Adoption of updates to other Burbank2035 General Plan elements to incorporate environmental justice policies
- Rezoning of opportunity sites within the Specific Plan areas

After adoption by the City Council, the updated Housing Element will be submitted to the California Department of Housing and Community Development for certification. The Safety Element updates will be submitted to CalFire for their review and approval.

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3 Environmental Setting

This section provides a general overview of the environmental setting for the proposed Project. More detailed descriptions of the environmental setting for each environmental issue area can be found in Section 4, *Environmental Impact Analysis*.

3.1 Regional Setting

The Housing and Safety Element Update would apply to the entire geographic area located within the boundaries of the City of Burbank (City) (i.e., 17.1 square miles). The Project is generally bounded by the Verdugo Mountains to the northeast, the City of Glendale to the southeast, the City of Los Angeles to the south, and the San Fernando Valley area of the City of Los Angeles to the west. In addition, the Project is bisected by the Interstate 5 (I-5) Freeway and the Metrolink Commuter Rail. Figure 2-1 in Section 2, *Project Description*, shows the location of the City in a regional context and Figure 2-2 shows the location of the proposed Project in relationship to surrounding cities.

A grid system of east-west and north-south roadways, including arterials, collectors, and local streets, provide vehicular access throughout the City. The major roadways include West Burbank Boulevard, Victory Boulevard, West Olive Avenue, North Buena Vista Street, North San Fernando Boulevard, and Glenoaks Boulevard. The closest freeways are the I-5 and Ventura Freeway (US Route 101).

The regional climate is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. Although air quality in the area has steadily improved in recent years, the Los Angeles region remains a nonattainment area for ozone (urban smog). The City is located approximately 13 miles inland from the coastline of the Pacific Ocean.

3.2 Project Site Setting

The Housing and Safety Element Update area consists of a variety of land use designations including Low, Medium, and High Density Residential; Corridor and Regional Commercial; four specific commercial areas and two commercial/industrial areas; Open Space; Institutional; and Airport. In addition, the City consists of various zones including residential, commercial, media district, business, auto dealership, industrial, airport, railroad, cemetery, and open space.

3.3 Cumulative Impacts

Cumulative impacts are the changes in the environment that result from the incremental impact of development of the Project and other projects with related impacts. CEQA Guidelines Section 15130 allows for two approaches to study cumulative impacts: using a list of past, current and probable future projects or relying on a summary of projections (growth forecasts) from adopted local, regional or statewide plans. Cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions and can more accurately gauge the effects of a series of projects.

Because the proposed Project is the Housing and Safety Element Update encompassing the entire area within the City limits, the cumulative impacts analysis in this EIR relies on the City's growth projections utilizing data available from the Southern California Association of Government's (SCAG) 2020 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS), SCAG's 2016 RTP/SCS travel demand model for the vehicle miles traveled (VMT) analysis in Section 4.11, *Transportation*; and the California Department of Finance's (DOF) 2020 E-5 Population and Housing Estimates for Cities, Counties, and the State. The City currently has a population of approximately 104,969 persons and 45,069 households (DOF 2021). Based on SCAG's 2020 RTP/SCS growth forecasts, the population of the City is expected to increase to 115,400 persons and 48,600 households by 2045 (SCAG 2020). In general, the cumulative environmental analysis in this EIR is based on horizon conditions of the City's General Plan, however, due to the eight-year update cycle of the Housing Element, 2029 conditions have been identified and included in the discussion. Based on the citywide average household size of 2.45, the increase of 10,456 residential units under the proposed Project would generate a population increase of approximately 25,617 residents over the eight-year horizon year of the Housing Element Update.

4 Environmental Impact Analysis

This section discusses the possible environmental effects of the Burbank Housing and Safety Element Update for the specific issue areas that were identified through the scoping process as having the potential to experience significant effects. A "significant effect" as defined by the *CEQA Guidelines* §15382:

> means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.

The assessment of each issue area begins with a discussion of the environmental setting related to the issue, which is followed by the impact analysis. In the impact analysis, the first subsection identifies the methodologies used and the "significance thresholds," which are those criteria adopted by the City of Burbank and other agencies, universally recognized, or developed specifically for this analysis to determine whether potential effects are significant. The next subsection describes each impact of the proposed Project, mitigation measures for significant impacts, and the level of significance after mitigation. Each effect under consideration for an issue area is separately listed in bold text with the discussion of the effect and its significance. Each bolded impact statement also contains a statement of the significance determination for the environmental impact as follows:

- **Significant and Unavoidable**. An impact that cannot be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires a Statement of Overriding Considerations to be issued if the Project is approved per §15093 of the CEQA Guidelines.
- **Less than Significant with Mitigation Incorporated**. An impact that can be reduced to below the threshold level given reasonably available and feasible mitigation measures. Such an impact requires findings under §15091 of the CEQA Guidelines.
- **Less than Significant**. An impact that may be adverse but does not exceed the threshold levels and does not require mitigation measures. However, mitigation measures that could further lessen the environmental effect may be suggested if readily available and easily achievable.
- **No Impact.** The proposed Project would have no effect on environmental conditions or would reduce existing environmental problems or hazards.

Following each environmental impact discussion is a list of mitigation measures (if required) and the residual effects or level of significance remaining after implementation of the measure(s). In cases where the mitigation measure for an impact could have a significant environmental impact in another issue area, this impact is discussed and evaluated as a secondary impact. The impact analysis concludes with a discussion of cumulative effects, which evaluates the impacts associated with the proposed Project in conjunction with other planned and pending developments in the area listed in Section 3, *Environmental Setting*.

The Executive Summary of this EIR summarizes all impacts and mitigation measures that apply to the proposed Project.

4.1 Air Quality

This section analyzes the effects of the project on air quality. This section analyzes both temporary impacts relating to construction activity and possible long-term impacts associated with project operation. Greenhouse gas and global climate change impacts are discussed in Section 4.5, *Greenhouse Gas Emissions*.

4.1.1 Environmental Setting

a. Local Climate and Meteorology

The City of Burbank (City) is in the South Coast Air Basin (SCAB or Basin), which is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego County line to the south. The regional climate in the SCAB is semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality in the SCAB is primarily influenced by a wide range of emissions sources – such as dense population centers, heavy vehicular traffic, and industry – and weather.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific Ocean, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The SCAB experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The SCAB is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter.

The SCAB experiences a persistent temperature inversion (increasing temperature with increasing altitude) because of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid to late afternoons on hot summer days. Winter inversions frequently break by midmorning.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations in the SCAB. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino counties.

b. Air Pollutants of Primary Concern

The Federal Clean Air Act (CAA) requires the United States Environmental Protection Agency (USEPA) to set National Ambient Air Quality Standards (NAAQS) for maximum allowable concentrations of six "criteria" pollutants in outdoor air. The six pollutants are carbon monoxide (CO), lead (Pb), ground-level ozone , nitrogen dioxide (NO_2), particulate matter (respirable particulate matter [PM_{10}] and fine particulate matter [$PM_{2.5}$]), and sulfur dioxide (SO_2). The standards are set at a level that protects public health with an adequate margin of safety for six common air pollutants (also known as "criteria air pollutants"). The characteristics of each of these pollutants are briefly described below.

Ozone

Ozone is a highly reactive and unstable gas that is formed when reactive organic gases (ROG), sometimes referred to as volatile organic compounds (VOC), and nitrogen oxides (NO_X), byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue and some immunological changes.

Carbon Monoxide

Carbon monoxide is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. In urban areas, automobile exhaust accounts for the majority of CO emissions. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections. The health effects of CO are related to its affinity for hemoglobin in the blood. At high concentrations, CO reduces the amount of oxygen in the blood, causing heart difficulty in people with chronic diseases, nausea, reduced lung capacity, and impaired mental abilities (USEPA 2020).

Nitrogen Dioxide

Nitrogen dioxide is a nitrogen oxide (NO_X) compound that is produced by the combustion of fossil fuels, such as in internal combustion engines (both gasoline and diesel powered), as well as point sources, especially power plants. Of the seven types of NO_X compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic areas, such as urban areas, may be exposed to higher concentrations of NO_2 than those indicated by regional monitors.

Particulate Matter

Respirable and fine particulate matter, PM_{10} and $PM_{2.5}$, consist of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter, respectively. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.

Sulfur Dioxide

Sulfur dioxide is a colorless, pungent gas formed primarily by the combustion of high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfates (SO_4). Collectively, these pollutants are referred to as sulfur oxides (SO_X). Generally, the highest levels of SO_2 are found near large industrial complexes. In recent years, SO_2 concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO_2 and limits on the sulfur content of fuels.

Lead

Lead occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne Pb in the SCAB. The use of leaded gasoline is no longer permitted for on road motor vehicles, so the majority of such combustion emissions are associated with off-road vehicles. However, because leaded gasoline was emitted in large amounts from vehicles when leaded gasoline was used for on-road motor vehicles, Pb is present in many urban soils and can be re-suspended in the air. Other sources of Pb include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and the use of secondary lead smelters.

Lead-based paint is also considered a health hazard for people, especially children. From the turn of the century through the 1940s, paint manufacturers used Pb as a primary ingredient in many oil-based paints. Use of Pb in paint decreased but was still used until 1978, when it was banned from residential use. Remodeling, renovations, or demolition activities in older buildings could disturb lead-based paint surfaces.

Toxic Air Contaminants

A toxic air contaminant (TAC) is an air pollutant that may cause or contribute to an increase in mortality or serious illness or which may pose a present or potential hazard to human health. TACs may result in long-term health effects such as cancer, birth defects, neurological damage, asthma, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation, runny nose, throat pain, and headaches. TACs are considered either carcinogenic or non-carcinogenic based on the nature of the health effects associated with exposure. For carcinogenic TACs, potential health impacts are evaluated in terms of overall relative risk expressed as excess cancer cases per one million exposed individuals. Non-carcinogenic TACs differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

One of the main sources of TACs in California is diesel engines that emit exhaust containing solid material known as diesel particulate matter (DPM); however, TACs may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities.

Diesel Particulate Matter

Fine particulates are generally associated with combustion processes and form in the atmosphere as a secondary pollutant through chemical reactions. PM_{10} (particulate matter measuring no more than 10 microns in diameter) is a by-product of fuel combustion and wind erosion of soil and unpaved roads, and it is directly emitted into the atmosphere through these processes. Chemical reactions in the atmosphere also create PM_{10}. Fine particulate matter poses a serious health threat to all groups, but particularly to the elderly, children, and those with respiratory problems. More than half of the fine particulate matter inhaled into the lungs remains there, which can cause permanent lung damage. These materials can damage health by interfering with the body's mechanisms for clearing the respiratory tract or by acting as carriers of an adsorbed toxic substance.

Diesel engine fuel combustion forms an important fraction of the particulate matter emission inventory, as particulates in diesel emissions are very small and readily respirable. The particles have hundreds of chemicals adsorbed onto their surfaces, including many known or suspected mutagens and carcinogens. The Office of Environmental Health Hazard Assessment (OEHHA) reviewed and evaluated the potential for diesel exhaust to affect human health, and the associated scientific uncertainties (CARB 1998). Based on the available scientific evidence, it was determined that a level of diesel PM exposure, below which no carcinogenic effects are anticipated, has not been identified. The Scientific Review Panel that approved the OEHHA report determined that, based on studies to date, 3×10^{-4} micrograms per cubic meter ($\mu g/m^3$) is a reasonable estimate of the unit risk for diesel PM. This means that a person exposed to a diesel PM concentration of 1 $\mu g/m^3$ continuously over the course of a lifetime has a 3 in 10,000 chance (or 300 in one million chance) of contracting cancer due to this exposure. Based on an estimated year 2000 statewide average concentration of 1.26 $\mu g/m^3$ for indoor and outdoor ambient air, about 380 excess cancers per one million population could be expected if diesel PM concentrations remained the same (CARB 2000). Therefore, these particulate emissions have been determined by CARB to be a TAC.

Diesel PM emissions are estimated to be responsible for about 70 percent of the total ambient air toxics risk. In addition to these general risks, diesel PM can also be responsible for elevated localized or near-source exposures ("hot-spots"). Depending on the activity and nearness to receptors, these potential risks can range from small to 1,500 per million or more (CARB 2000).

CARB staff have conducted risk characterization scenarios to determine the potential excess cancer risks involved when individuals are near various sources of diesel engine emissions, ranging from school buses to high volume freeways. The purpose of the risk characterization was to estimate, through air dispersion modeling, the cancer risk associated with typical diesel-fueled engine or vehicle activities based on modeled PM concentration at the point of maximum impact. The study included various sources of diesel PM emissions, including idling school buses, truck stops, low- and high-volume freeways, and other sources. High-volume freeways (20,000 trucks per day) were estimated to cause 800 to 1,700 per million potential excess cases of cancers, while low-volume freeways (2,000 trucks per day) were estimated to cause about 100 to 200 per million potential excess cases of cancers (CARB 2000).

Other Mobile Source Contaminants

Besides DPM, several other pollutants that are a public health concern are emitted by vehicle exhausts. The USEPA has identified six pollutants of highest priority: DPM, acrolein, acetaldehyde, formaldehyde, benzene, and 1,3-butadiene. The latter five pollutants are part of the total organic gases emitted by diesel fueled vehicles. A brief description of each of these chemicals follows:

- **Acrolein** is the simplest unsaturated aldehyde. It is a widely produced substance with a piercing, disagreeable, acrid smell similar to that of burning fat. Acrolein is an unstable toxic substance that can burn the nose and throat and is a severe pulmonary irritant. It is a flammable and poisonous substance prepared industrially by the oxidation of propene. Small amounts of acrolein are formed and enter the air when trees, tobacco, other plants, gasoline, and oil are burned.
- **Acetaldehyde**, sometimes known as ethanol, is an organic chemical compound used as an intermediate in the production of acetic acid, certain esters, and a number of other chemicals. It is a flammable liquid with a fruity smell. Acetaldehyde is a toxic when applied externally for prolonged periods, an irritant, and a probable carcinogen.

- **Formaldehyde** is an organic chemical compound containing a terminal carbonyl group. It is produced in the atmosphere by the action of sunlight and oxygen on atmospheric methane and other hydrocarbons, becoming a part of smog. Additionally, formaldehyde is an intermediate in the oxidation (or combustion) of methane as well as other carbon compounds including automobile exhaust. Formaldehyde is a flammable substance that can be toxic, allergenic, and carcinogenic. It is naturally made in small amounts in human bodies and is found in small amounts in household sources, such as fiberglass, carpets, permanent press fabrics, paper products, and some household cleaners.
- **Benzene**, or benzol, is an organic chemical compound and a known carcinogen. It is a colorless and highly flammable liquid with a sweet smell and a relatively high melting point. Benzene is an important industrial solvent and precursor in the production of drugs, plastics, synthetic rubber, and dyes. Benzene is a natural constituent of crude oil and may be synthesized from other compounds present in petroleum. It is found in gasoline and cigarette smoke. Natural sources of benzene include emissions from volcanoes and forest fires.
- **1,3-Butadiene** is an important industrial chemical used in the production of synthetic rubber (about 75 percent of manufactured 1,3-butadiene), which is then used primarily in the production of automobile tires. It is a colorless gas with a mild gasoline-like odor. Gasoline contains small amounts that are exhausted into the air after the combustion process. It is a carcinogen, highly irritative, and flammable.

c. Sensitive Receptors

There is a strong connection between health risk and the proximity of the source of air pollution. Local jurisdictions have the responsibility for determining land use compatibility for sensitive receptors. A sensitive receptor is a person in the population who is particularly susceptible to health effects due to exposure to an air contaminant. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. California Air Resources Board (CARB) has identified the following population groups that are most likely affected by air pollution: children less than 14 years of age, adults over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. Land uses where these population groups are likely to spend a substantial amount of time are considered sensitive receptors. According to South Coast Air Quality Management District (SCAQMD), land uses with sensitive receptors include the following (SCAQMD 2005):

- Schools, playgrounds and childcare centers
- Long-term health care facilities
- Rehabilitation centers
- Convalescent centers
- Hospitals
- Retirement homes
- Residences

d. Ambient Air Quality Measurements

The SCAQMD divides the SCAB into 38 source receptor areas (SRAs), wherein 38 monitoring stations operate to monitor the various concentrations of air pollutants in the region. The purpose of the monitoring stations is to measure ambient concentrations of pollutants and determine whether ambient air quality meets the California and federal standards. The monitoring station located closest to the Project site is the North Hollywood monitoring station at 10659 West Delano Street, which is approximately eight miles west of the city. The North Hollywood station monitors ozone, $PM_{2.5}$, and NO_2. However, this monitoring station had insufficient data for measurements in the years 2018 and 2019. Therefore, measurements from the Los Angeles-North Main Street station, which is approximately nine miles southeast of the city was used The Los Angeles-North Main Street monitoring station measures ozone, NO_2, PM_{10}, and $PM_{2.5.}$ Table 4.1-1 indicates the number of days that each of the standards has been exceeded at the Los Angeles-North Main Street station in 2018, 2019, and 2020.

As shown in Table 4.1-1, the ozone eight-hour ozone concentration exceeded both State and federal standards on four days in 2018, two days in 2019, and 22 days in 2020. The ozone concentration exceeded State one-hour standards on two days in 2018 and 14 days in 2020. The $PM_{2.5}$ concentration exceeded standards on six days in 2018, one day in 2019, and 12 days in 2020. No exceedances of federal standards for NO_2 or PM_{10} have occurred at the monitoring station in the last three years; however, the State PM_{10} standard was exceeded 31 times in 2018, 15 times in 2019, and 34 days in 2020.

Table 4.1-1 Ambient Air Quality at the Monitoring Station

Pollutant	2018	2019	2020
8 Hour Ozone (ppm), 8-Hr Maximum[1]	0.073	0.080	0.118
Number of Days of State exceedances (>0.070)	4	2	22
Number of days of Federal exceedances (>0.070)	4	2	22
Ozone (ppm), Worst Hour[1]	0.098	0.093	0.185
Number of days of State exceedances (>0.09 ppm)	2	0	14
Number of days of Federal exceedances (>0.124 ppm)	0	0	1
Nitrogen Dioxide (ppm) – Worst Hour[1]	0.0701	0.0697	0.0616
Number of days of State exceedances (>0.18 ppm)	0	0	0
Number of days of Federal exceedances (0.10 ppm)	0	0	0
Particulate Matter 10 microns, μg/m^3, Worst 24 Hours[1]	81.2	93.9	185.2
Number of days above Federal standard (>150 μg/m^3)	0	0	0
Number of days of State exceedances (>50 μg/m^3)	31	15	34
Particulate Matter <2.5 microns, μg/m^3, Worst 24 Hours[1]	65.3	43.5	175.0
Number of days above Federal standard (>35 μg/m^3)	6	1	12

Source: CARB 2021a

4.1.2 Regulatory Setting

The Federal CAA governs air quality in the United States. In addition to being subject to the requirements of the CAA, air quality in California is also governed by more stringent regulations under the CCAA. At the federal level, the CAA is administered by the USEPA. In California, the CCAA is administered by CARB at the State level and by air quality management districts (AQMDs) at the regional and local levels.

Air quality in the SCAB, in which Burbank is located, is addressed through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policymaking, education, and a variety of programs. The agencies responsible for improving air quality in the SCAB are discussed below.

a. Federal

U.S. Environmental Protection Agency

The CAA was enacted in 1970 and amended in 1977 and 1990 [42 United States Code (USC) 7401] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, to achieve the purposes of Section 109 of the CAA [42 USC 7409], the USEPA developed Ambient Air Quality Standards which represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) have been designated for the following criteria pollutants of primary concern: ozone, CO, NO_2, SO_2, $PM_{10,}$ $PM_{2.5}$, and Pb.

The USPEA classifies specific geographic areas as either "attainment" or "non-attainment" areas for each pollutant based on the comparison of measured data with the NAAQS. States are required to adopt enforceable plans, known as a State Implementation Plan (SIP), to achieve and maintain air quality meeting the NAAQS. State plans also must control emissions that drift across state lines and harm air quality in downwind states. Table 4.1-2 lists the current federal standards for regulated pollutants.

Table 4.1-2 Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standards	California Standard
Ozone	1-Hour	N/A[1]	0.09 ppm[2]
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.030 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	0.03 ppm	N/A
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM_{10}	Annual	N/A	20 µg/m^3
	24-Hour	150 µg/m	50 µg/m

Pollutant	Averaging Time	Federal Primary Standards	California Standard
$PM_{2.5}$	Annual	12 µg/m	12 µg/m
	24-Hour	35 µg/m	N/A
Lead	30-Day Average	N/A	1.5 µg/m
	3-Month Average	0.15 µg/m	N/A

[1] N/A: Not applicable because no standard is currently established for California

[2] ppm = parts per million

[3] µg/m = micrograms per cubic meter

Source: CARB 2016

SAFE Vehicle Rule

On September 27, 2019, the USEPA and the National Highway Safety Administration published the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program." The Part One Rule revokes California's authority to set its own GHG emissions standards and sets zero-emission vehicle mandates in California. To account for the effects of the Part One Rule, CARB released off-model adjustment factors on November 20, 2019 to adjust criteria air pollutant emissions outputs from the EMFAC model.

b. State

The California Clean Air Act (CCAA) was enacted in 1988 (California Health & Safety Code (H&SC) Section 39000 et seq.). Under the CCAA, the State has developed the California Ambient Air Quality Standards (CAAQS), which are generally more stringent than the NAAQS. Table 4.1-2 lists the current State standards for regulated pollutants. In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride. Similar to the federal CAA, the CCAA classifies specific geographic areas as either "attainment" or "non-attainment" areas for each pollutant, based on the comparison of measured data within the CAAQS.

California is divided geographically into 15 air basins for managing the air resources of the State on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. If an air basin is not in either federal or state attainment for a particular pollutant, the basin is classified as a non-attainment area for that pollutant. Under the federal and State Clean Air Acts, once a non-attainment area has achieved the air quality standards for a particular pollutant, it may be redesignated to an attainment area for that pollutant. To be redesignated, the area must meet air quality standards and have a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. Areas that have been redesignated to attainment are called maintenance areas. SCAB is designated a non-attainment area for the state one-hour and eight-hour ozone standards, the State PM_{10} standards, and the State annual $PM_{2.5}$ standard. SCAB is classified as in attainment (or unclassifiable/attainment) for all other State and federal standards.

c. Regional

South Coast Air Quality Management District

SCAQMD is the agency principally responsible for comprehensive air pollution control in the SCAB. To that end, SCAQMD, a regional agency, works directly with the Southern California Association of

Governments (SCAG), county transportation commissions, and local governments, and cooperates actively with all State and federal government agencies. SCAQMD develops rules and regulations, establishes permitting requirements, inspects emissions sources, monitors air quality, and provides regulatory enforcement through such measures as educational programs, monitors or fines, when necessary.

SCAQMD is responsible for developing programs to reduce emissions from stationary, mobile, and indirect sources to meet national and State AAQS. It has responded to this requirement by preparing a series of Air Quality Management Plans (AQMP). The most recent plan, *2016 Air Quality Management Plan* (2016 AQMP), was adopted by the Governing Board of the SCAQMD on March 3, 2017. The 2016 AQMP was prepared to comply with the federal and State CAAs and amendments, to accommodate growth, to reduce the high levels of pollutants in the SCAB, to meet national and State AAQS, and to minimize the fiscal impact that pollution control measures have on the local economy (SCAQMD 2017). The 2016 AQMP identifies control measures that will be implemented over a 15-year horizon to reduce major sources of pollutants. Implementation of control measures established in the previous AQMPs has substantially decreased the population’s exposure to unhealthful levels of pollutants, even while population growth has occurred in the SCAB.

Future air quality levels forecast in the 2016 AQMP are based on several assumptions. For example, SCAQMD assumes that new development in the SCAB will occur in accordance with population growth and transportation projections identified by SCAG in its previous *Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS), the 2016 RTP/SCS (SCAQMD 2017). The 2016 AQMP also assumes that development projects will include strategies (mitigation measures) to reduce emissions generated during construction and operation in accordance with SCAQMD and local jurisdiction regulations, which are designed to address air quality impacts and pollution control measures. The 2016 AQMP acknowledges that the most significant air quality challenge in the Basin is to reduce NO_X emissions sufficiently to meet the upcoming ozone standard deadlines (SCAQMD 2017). The upcoming 2022 AQMP will represent a comprehensive analysis of emissions, meteorology, regional air quality modeling, regional growth projections, and the impact of existing and proposed control measures (SCAQMD 2021).

SCAQMD has also developed programs to attain and maintain the NAAQS and CAAQS. These include air quality rules and regulations for stationary sources, area sources, point sources, and certain mobile source emissions. The SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases. All projects within SCAQMD jurisdiction are subject to SCAQMD rules and regulations, including, but not limited to the following:

- **Rule 401 Visible Emissions** – This rule prohibits an air discharge that results in a plume that is as dark as or darker than what is designated as No. 1 Ringelmann Chart by the United States Bureau of Mines for an aggregate of three minutes in any one hour.
- **Rule 402 Nuisance** – This rule prohibits the discharge of “such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of people or the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.”
- **Rule 403 Fugitive Dust** – This rule requires that future projects reduce the amount of particulate matter entrained in the ambient air as a result of fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions from any active operation, open storage piles, or disturbed surface area.

- **Rule 1113 Architectural Coatings** – This rule limits VOCs in architectural coatings used in the SCAQMD jurisdiction. These limits are application-specific and are updated as availability of low-VOC products expands.
- **Rule 1168 Adhesive and Sealant Applications** – This rule reduces emissions of VOCs and eliminates emissions of chloroform, ethylene dichloride, methylene chloride, perchloroethylene, and trichloroethylene from the application of adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primers.
- **Regulation XIII New Source Review** – This regulation contains Rules 1300 through 1325, which set forth pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the NAAQS, and that future growth within SCAQMD is not unnecessarily restricted. The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of non-attainment air contaminants or their precursors.

Southern California Association of Governments

SCAG is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. As a regional planning agency SCAG serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that improve air quality. The 2016 AQMP incorporates the population growth projections contained within SCAG's 2016 RTP/SCS, which are used in the development of air quality-related land use and transportation control strategies developed by the SCAQMD. It should be noted that SCAG adopted an update to the RTP/SCS on May 7, 2020. The 2020-2045 RTP/SCS (2020 RTP/SCS) or *Connect SoCal* was developed through a four-year planning process to update population, housing and employment data as well as transportation strategies for the region through the horizon year of 2045 (SCAG 2020). Based on an evaluation of the 2016 RTP/SCS and the 2020 RTP/SCS demographic projections, the 2020 RTP/SCS projects fewer residents, jobs, and housing units. The 2020 RTP/SCS predicts approximately 290,000 fewer residents, 80,000 fewer houses, and 210,000 jobs in the region in 2040 than under the 2016 RTP/SCS, which would represent less activities and associated emissions than would have been predicted under the 2016 RTP/SCS. Therefore, evaluating again the 2016 RTP/SCS projections would be conservative as the 2016 AQMP assumed greater growth than is currently anticipated. The impact analysis throughout this EIR uses the demographic data provided in the 2020 RTP/SCS. The 2020 RTP/SCS is discussed in greater detail in Section 4.5, *Greenhouse Gas Emissions*.

d. Local

Burbank2035 General Plan

The Burbank2035 General Plan (Burbank2035) includes numerous goals, policies, and programs that would impact future air emissions generated by land uses within the city. These include Mobility Programs M-6 (Transit System), M-7 (Bicycle Master Plan and Pedestrian Master Plan), and M-10 (Transportation Demand Management). Burbank2035 also includes an Air Quality and Climate Change Element, which is an optional element (i.e., not required by State law), pursuant to California Government Code Section 65303. This Element is specifically designed to reduce the City's air pollutant emissions and comply with Statewide goals. The Air Quality and Climate Change Element of Burbank2035, contains the following Policies that reduce potential air quality impacts:

Policy 1.1: Coordinate air quality planning efforts with local, regional, state, and federal agencies, and evaluate the air quality effects of proposed plans and development projects.

Policy 1.2: Seek to attain or exceed the more stringent of federal or state ambient air quality standards for each criteria air pollutant.

Policy 1.5: Require projects that generate potentially significant levels of air pollutants, such as landfill operations or large construction projects, to incorporate best available air quality and greenhouse gas mitigation in project design.

Policy 1.6: Require measures to control air pollutant emissions at construction sites and during soil disturbing or dust-generating activities (i.e., tilling, landscaping) for projects requiring such activities.

Policy 1.7: Require reduced idling, trip reduction, and efficiency routing of transportation for City departments, where appropriate.

Policy 1.9: Encourage the use of zero-emission vehicles, low-emission vehicles, bicycles, and other non-motorized vehicles, and car-sharing programs by requiring sufficient and convenient infrastructure and parking facilities in residential developments and employment centers to accommodate these vehicles.

Policy 1.10: Give preference to qualified contractors using reduced-emission equipment for City construction projects and contracts for services, as well as businesses that practice sustainable operations.

Policy 2.2: Separate sensitive uses such as residences, schools, parks, and day care facilities from sources of air pollution and toxic chemicals. Provide proper site planning and design features to buffer and protect when physical separation of these uses is not feasible.

Policy 2.3: Require businesses that cause air pollution to provide pollution control measures.

Policy 2.5: Require the use of recommendations from the California Air Resources Board's Air Quality and Land Use Handbook to guide decisions regarding location of sensitive land uses.

Policy 3.1: Develop and adopt a binding, enforceable reduction target and mitigation measures and actions to reduce community-wide greenhouse gas emissions within Burbank by at least 15 percent from current levels by 2020.

4.1.3 Impact Analysis

a. Thresholds of Significance

Thresholds of significance are based on the questions in Appendix G of the CEQA Guidelines. The Initial Study prepared for the proposed Project (Appendix B) determined that a potentially significant impact might occur under the following threshold and therefore will be analyzed in this section of the EIR.

1. Conflict with or obstruct implementation of the applicable air quality plan
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard
3. Expose sensitive receptors to substantial pollutant concentrations
4. Result in other emissions (such as those leading to odor) adversely affecting a substantial number of people

The Initial Study (Appendix B) determined that the proposed project could result in potentially significant impacts related to the applicable air quality plan (Threshold 1), criteria pollutants (Threshold 2), and sensitive receptors (Threshold 3). As such, an analysis of these issues is included in this section of the EIR. The Initial Study found no potentially significant impacts related to odors (Threshold 4); therefore, this issue is not studied further herein. Specific quantitative thresholds used to define the general CEQA thresholds are discussed below.

SCAQMD Thresholds

As stated in the CEQA Guidelines, the significance criteria established by the regional air quality management district or air pollution control district may be relied upon to make significance determinations. The SCAQMD has adopted guidelines for quantifying and determining the significance of air quality emissions in its *SCAQMD CEQA Air Quality Handbook* and supplemental updates (SCAQMD 1993, 2008, and 2019).

Regional Significance Thresholds

The SCAQMD recommends the use of quantitative regional significance thresholds to evaluate emissions generated by temporary construction activities and long-term project operation in the SCAB, which are shown in Table 4.1-3. Project-level significance thresholds established by local air districts set the level at which a project would cause or have a cumulatively considerable contribution to an exceedance of a federal or State ambient air quality standard. Therefore, if a project's air pollutant emissions exceed the significance thresholds, the project could cause or contribute to the human health impacts described under Section 4.1.1, *Air Pollutants of Primary Concern*. For example, SCAQMD has set its operational significance threshold for VOCs based in part on the significance level for stationary sources of emissions established by Section 182(e) of the federal CAA. SCAQMD developed its other significance thresholds "based on scientific and factual data that is contained in the federal and state Clean Air Acts" (SCAQMD 1993).

Table 4.1-3 SCAQMD Regional Significance Thresholds

Construction Thresholds	Operational Thresholds
75 pounds per day of ROG	55 pounds per day of ROG
100 pounds per day of NO_X	55 pounds per day of NO_X
550 pounds per day of CO	550 pounds per day of CO
150 pounds per day of SO_X	150 pounds per day of SO_X
150 pounds per day of PM_{10}	150 pounds per day of PM_{10}
55 pounds per day of $PM_{2.5}$	55 pounds per day of $PM_{2.5}$

Source: SCAQMD 2019

The SCAQMD has also developed Localized Significance Thresholds (LST) in response to the Governing Board's Environmental Justice Enhancement Initiative (1-4), which was prepared to update the *CEQA Air Quality Handbook* (1993). LSTs were devised in response to concern regarding exposure of individuals to criteria pollutants in local communities and have been developed for NO_X, CO, PM_{10}, and $PM_{2.5}$. LSTs represent the maximum emissions from a project that will not cause or contribute to an air quality exceedance of the most stringent applicable federal or State ambient air quality standard at the nearest sensitive receptor, taking into consideration ambient concentrations in each SRA, distance to the sensitive receptor, and project size. LSTs have been developed for emissions within construction areas up to five acres in size.

The city is located in SRA 7. SCAQMD sets LST values for construction and operation of projects with lot sizes from less than one acre up to five acres and at a distance of 25 meters to 500 meters (SCAQMD 2008). LSTs only apply to on-site emissions and are not applicable to off-site mobile sources, such as cars on a roadway (SCAQMD 2008). As such, LSTs for future housing development facilitated by the proposed project would only apply to construction emissions because the majority of operational emissions from residential uses are associated with project-generated vehicle trips, rather than stationary sources (SCAQMD 2008).

As appropriate, analysis of individual future projects facilitated by the Housing Element Update must address the applicable threshold based on the SRA, size of the project site, and the proximity of sensitive receptors. Table 4.1-4 presents the LST values for construction within 25 meters of sensitive receptors, the most conservative thresholds.

Table 4.1-4 SCAQMD LSTs for Construction Within 25 Meters of Sensitive Receptors (SRA-7)

	Allowable Emissions (lbs/day)		
Pollutant	1-Acre Site or less	2-Acre Site	5-Acre Site
NO_X	80	114	172
CO	498	786	1,434
PM_{10}	4	7	14
$PM_{2.5}$	3	4	8

Source: SCAQMD 2009

Toxic Air Contaminants

The USEPA considers those pollutants that could cause cancer risks between one in 10,000 (1.0 x 10^{4}) and one in one million (1.0 x 10^{-6}) for risk management. Proposition 65 (California Health and Safety Code Section 25249.6), enacted in 1986, prohibits a person in the course of doing business from knowingly and intentionally exposing any individual to a chemical that has been listed as known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning. For a chemical that is listed as a carcinogen, the "no significant risk" level under Proposition 65 is defined as the level that is calculated to result in not more than one excess case of cancer in 100,000 individuals (1.0 x 10^{-5}). The SCAQMD recommends the use of this risk level (also reportable as 10 in one million) as the significance threshold for TACs (SCAQMD 2019). The SCAQMD also recommends that the non-carcinogenic hazards of TACs should not exceed a hazard index (the summation of the hazard quotients for all chemicals to which an individual would be exposed) of 1.0 for either chronic or acute effects (SCAQMD 2019).

b. Methodology

The terminology and methodology used to evaluate the significance of potential impacts to air quality are described below. In accordance with CEQA requirements and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. The City uses SCAQMD's *CEQA Air Quality Handbook* (1993) as the guidance document for the environmental review of plans and development proposals within its jurisdiction. The City relies upon the expertise of the SCAQMD, uses the *CEQA Air Quality Handbook*, and SCAQMD recommended thresholds of significance as the guidance for the environmental review of plans and development proposals. For purposes of this analysis, the CEQA

Guidelines Appendix G criteria are used, supplemented by the thresholds identified in current SCAQMD guidance.

Air quality impacts resulting from implementation of the Housing Element Update are assessed at a programmatic level because information on specific future housing developments reasonably anticipated under the Housing Element is not known at this time. The SCAQMD *CEQA Air Quality Handbook* states that the air quality assessment should be as comprehensive as possible at a programmatic level. In the absence of SCAQMD programmatic thresholds, this EIR analysis broadly examines temporary construction emissions, long-term operational emissions, and localized pollutant concentrations. Common sources of construction emissions include heavy-duty off-road construction equipment exhaust, fugitive dust, and architectural coatings. Sources of operational emissions include the use of consumer products, motor vehicle trips attracted to or generated by a land use, and on-site combustion of natural gas. A best-effort approach to disclose all reasonably foreseeable impacts based on available information is used consistent with the requirements of CEQA.

Emissions have been calculated based on forecast growth in the city from existing conditions (2021) through 2029, the life of the Housing Element Update. Interim year calculations have not been conducted because the anticipated timing of land use changes and new development during interim years would be speculative. In general, economic activity tends to vary substantially over the short term with recessions and booms substantially affecting short-term growth. Over the long-term planning horizon, such variations tend to balance out. The City cannot reasonably anticipate whether short-term growth would be linear or sporadic between 2021 and 2029. Given this uncertainty, interim year emissions analyses are unlikely to be a reasonably accurate portrayal of emissions prior to 2029. Furthermore, it is not anticipated that interim year calculations would produce substantially different emission estimates or conclusions regarding the significance of such emissions than presented herein. For these reasons, calculating emissions for interim year scenarios would not provide the public with any more valuable information than what is presented in this EIR.

Construction

Construction emissions were estimated for equipment exhaust emissions and truck trips using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. Equipment emission factors in CalEEMod are based on CARB data. Equipment was assumed to operate for eight hours per day. Truck emission factors in CalEEMod are from EMFAC2017 and haul trucks were assumed to travel 20 miles per day. Fugitive dust and architectural coating emissions are qualitatively discussed because it would be speculative to quantify lot acreage and the size of buildings to be coated. To estimate construction emissions, example individual construction project scenarios were developed with varying equipment usage and hauling truck trip intensity. The scenarios were not associated with any specific land use and include generalized assumptions regarding construction scheduling and practices; excepting fugitive dust control through site watering twice a day to reflect compliance with SCAQMD Rule 403. The four scenarios are itemized below:

- Two pieces of heavy-duty equipment and 25 truck trips per day
- Four pieces of heavy-duty equipment and 50 truck trips per day
- Eight pieces of heavy-duty equipment and 100 truck trips per day
- Ten pieces of heavy-duty equipment and 150 truck trips per day

These equipment inventories and truck volumes are representative of a reasonable range of construction activity intensity for individual projects based on previous development in Burbank. Maximum daily regional and localized emissions were quantified for these construction scenarios and assessed in the context of the SCAQMD significance thresholds. The analysis of reasonably expected construction projects from the Housing Element Update and adoption of the rezone program assumes a baseline of zero for daily criteria pollutant emissions, which is a conservative assumption given that cities typically have several construction projects ongoing at any given time.

Operation

Reasonably anticipated development from the Housing Element Update would generate mobile source emissions, energy use emissions (natural gas combustion), and area source emissions.

Mobile Sources

Mobile source emissions were estimated using vehicle activity data presented in Section 4.11, *Transportation*, and vehicle emission rates from CARB's EMFAC2017 model. All residential vehicle miles traveled (VMT) growth and employment VMT growth between the existing (2021) condition and the future (2029) condition were attributed to the Housing Element Update. As shown in Table 4.1-5, buildout of the existing land use designations would gradually increase vehicle trips and VMT. However, per capita and per employee VMT would each diminish due to reduced trip lengths.

Table 4.1-5 Vehicle Activity Data (Daily) for the Housing Element Update

Activity	Existing (2021)	With Project (2029)	Project (2029) vs. Existing (2021) [1]	
Residential VMT	1,219,394	1,187,371	-32,023	(-2.6%)
Residential Vehicle Trips	4,911	788,283	+4,911	(+3.4%)
Residential Average Trip Length	8.5	8.0	-0.5	(-5.9%)
Residential VMT per capita	11.3	9.2	-2.1	(-18.5%)
Employment VMT	2,016,992	2,198,215	+181,223	(+9.0%)
Employment Vehicle Trips	128,750	142,510	+13,760	(+10.7%)
Employment Average Trip Length	15.7	15.4	-0.2	(-1.5%)
Employment VMT per Employee	16.9	16.7	-0.2	(-1.3%)

VMT = Vehicle Miles Traveled

[1] Quantities may not sum properly due to independent rounding.

Source: Fehr & Peers 2021

Energy Sources

Energy use emissions were calculated according to the methodology explained in Appendix A of the CalEEMod User Guide, Version 2020.4.0. The energy use estimates account for the 2019 Building Energy Efficiency Standards (Title 24). This is a conservative assumption since the energy use estimates do not account for potential energy efficiency measures required by subsequent Title 24 updates in 2022, 2025, and 2028.

Area Sources

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating, were calculated in CalEEMod and utilize standard emission rates from CARB, USEPA, and emission factor values provided by the local air district (CAPCOA 2021).

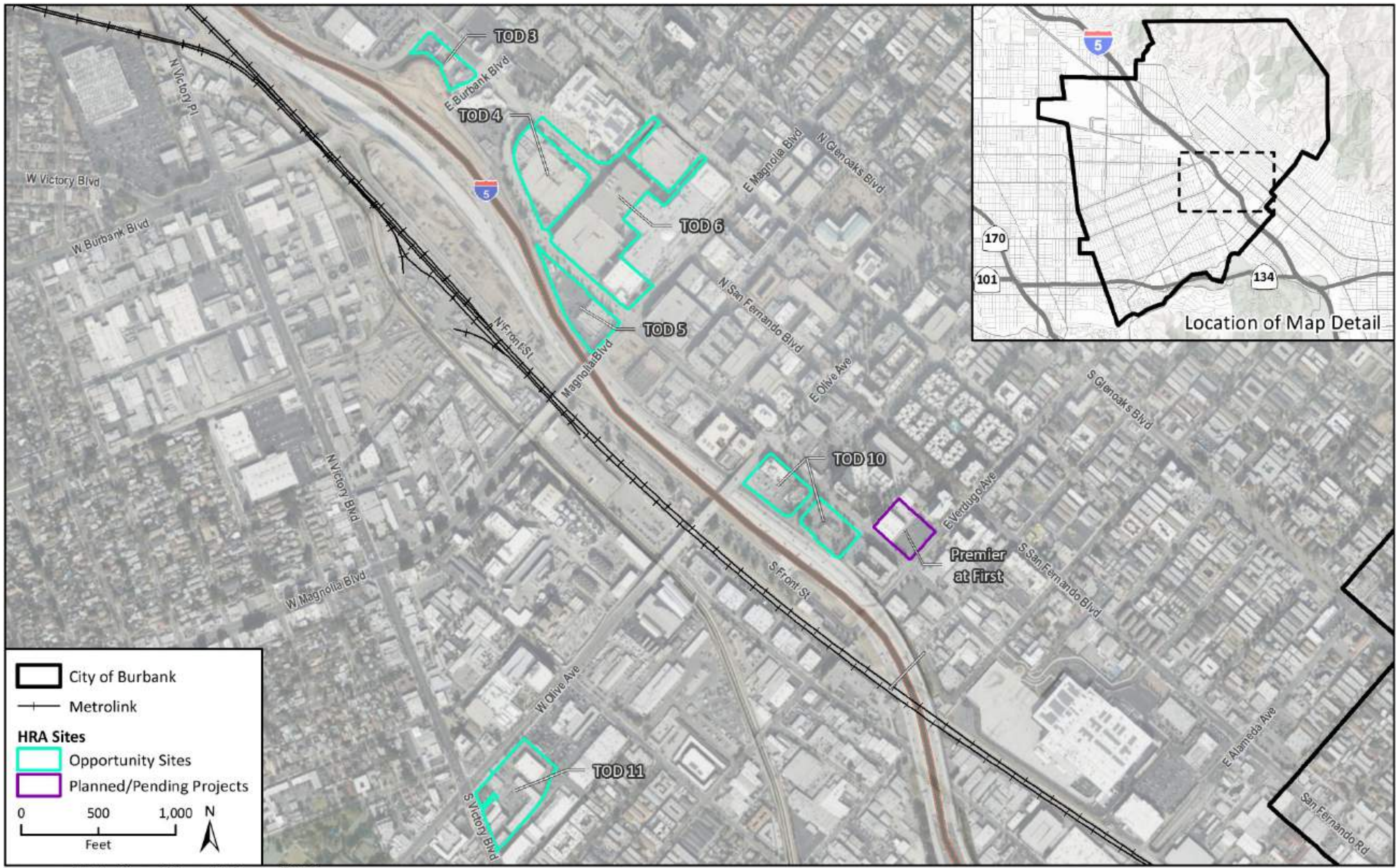
Toxic Air Containments

Rincon prepared a health risk assessment (HRA) to evaluate potential impacts associated with emissions of existing sources of TACs in proximity to the proposed residential developments under the Housing Element Update pursuant with Program AQCC-4, *Health Risk Assessments for Stationary and Mobile Sources*, from the Burbank 2035 General Plan. However, pursuant to the judicial decisions in the California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal.4th 369,386, the impacts of the environment upon a project are excluded from CEQA unless the project itself "exacerbates" such impacts. Therefore, the results from the HRA are presented for informational purposes only. The HRA evaluated TAC emissions from Interstate 5 (I-5), State Route 134 (SR-134), and the Burbank Water and Power (BWP) facility. I-5 and SR-134 are mobile sources of TAC and the BWP facility is a stationary source of TAC.

Air dispersion modeling was completed using the American Meteorological Society/USEPA Regulatory Model (AERMOD). AERMOD provides X/Q (CHI/Q = chi/q = χ/q) values, which are the concentrations estimated by the air quality model based on an emission rate of one gram per second. The same AERMOD computations for area sources are used for line sources. To account for the urban heat island effect, the AERMOD urban option was used with the 2010 United States Census Bureau Los Angeles County population of 9,818,605 (SCAQMD 2017). Specific meteorology and terrain for the site were also included in the model using the nearest available meteorological data set for the Hollywood Burbank Airport (located approximately three miles northwest of the Project site) and United States Geological Survey Digital Elevation Model data for Burbank quadrangle (30 by 30-meter resolution) (CARB 2021b, 2021c). Additionally, the presence of buildings and other structures disturbs downwind air flow. Building downwash, which is a plume transport and dispersion phenomenon that accounts for the disturbance from building on downwind air flow, is only calculated for point sources. Therefore, the roadway HRAs for I-5 and SR-134 did not include building downwash, but the stationary source HRA for the BWP facility included building downwash to account for buildings onsite at the BWP facility.

Health risk calculations in CARB's Hotspots Analysis and Reporting Program version 2 (HARP 2) were used to determined carcinogenic and non-carcinogenic health risks at the locations of residential developments proposed under the Housing Element Update within 500 feet of the sources analyzed. The sensitive receptors were assumed to all be individual residences. Receptors located farther away from these locations would have reduced health risk impacts, as concentrations would be further reduced with increasing distance (CARB 2005). Sensitive receptors associated with the housing development under the proposed Project were modeled for eight floors by adjusting the flagpole height (i.e., the height that a receptor is above the ground) by 11 feet or 3.35 meters for each floor above the base elevation of the project site. The first floor was assumed to be ground level at zero feet. Figure 4.1-1 and Figure 4.1-2 show the opportunity sites within 500 feet of I-5, BWP, and SR-134.These sites were included in the HRA.

Figure 4.1-1 Burbank Housing Element Development Sites within 500 feet of Interstate 5 and Burbank Water and Power Facility



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FigX_HRA_Sites

Figure 4.1-2 Burbank Housing Element Development Sites within 500 Feet of State Route 134

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FigX_HRA_Sites

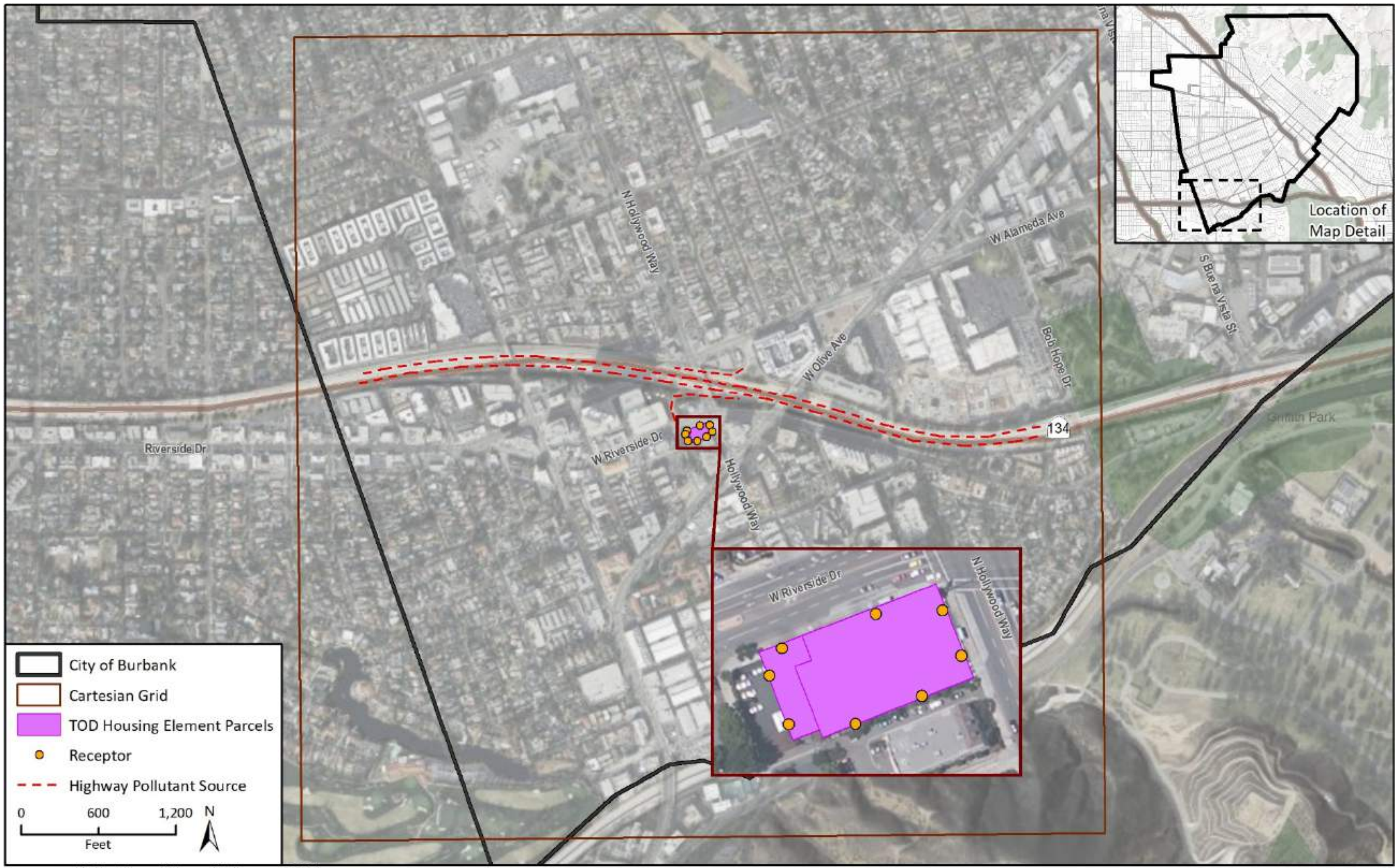
Mobile Source Emissions

The traffic volume for I-5, SR-134, and associated the ramps were based on the California Department of Transportation (Caltrans) 2019 Traffic Volumes on California State Highways, 2019 Truck Traffic: Annual Average Daily Truck Traffic, and 2019 Ramp Volumes on the California State Freeway System District 4 (Caltrans 2021a, 2021b, 2021c). The year 2019 is the most recent year for which freeway traffic data is available from these sources. Based on the average of the ahead and behind 2019 traffic counts, the annual average daily traffic (AADT) volume along the nearest segment of I-5 is approximately 219,500 vehicles. The AADT on the nearest segment of SR-134 is 214,500 vehicles. A total of 11 ramps were identified for inclusion in the HRA, including nine associated with I-5 and two associated with SR-134. See Appendix C for a full list of the AADTs used on the ramps. The segments of I-5, SR-134 within half a mile and the ramps within 500 feet of the project site were modeled as a series of volume sources in AERMOD.

Mobile source TACs associated with vehicle traffic on I-5, SR-134, and associated on- and off-ramps within 500 feet of the Project sites were estimated based on the methodology developed by the University of California Davis (UC Davis)-California Department of Transportation (Caltrans) *Air Quality Project, Estimating Mobile Source Air Toxics Emissions [MSAT]: A Step-By-Step Project Analysis Methodology* (2006). This spreadsheet application was designed to generate the total amount of the six pollutants of concern discussed in Section 4.1.1, *Environmental Setting*, based on total organic gases emission factors and diesel particulate emission factors from CARB's EMission FACtors 2021 (EMFAC2021). For the SR-134 HRA, EMFAC2021 emissions factors for the year 2023 were used, while emission factors for the year 2029 were used for the I-5 HRA. The UC Davis-Caltrans spreadsheet contained speciation factors from the CARB, and the USEPA's Motor Vehicle Emission Simulator (MOVES; USEPA 2014) was used to supplement missing values for acrolein. These emission and speciation factors were then multiplied against traffic volumes for the mainline and ramp segments to obtain total emissions from I-5 and SR-134 mainlines within one-half mile of the Project sites and from associated freeway on- and off-ramps within 500 feet of the Project sites. Emission factors for this study were based on grams per mile. Spreadsheet outputs adapted from the UC Davis-Caltrans MSAT model and composite emission rates are included in Appendix C.

For mainline emissions, emission factors were reviewed for speeds between 50 and 65 miles per hour (mph) based on the posted speed limits. On I-5 and SR-134, the worst reasonable case speed for diesel PM emissions (i.e., highest emission levels) was 65 mph for heavy duty and light duty trucks. For total organic gases emissions (TOG), the worst reasonable speed was 50 mph for heavy-duty trucks traveling on I-5 and 65 mph for light duty trucks and passenger vehicles. For vehicles traveling on SR-134, the highest TOG emission factors were at 65 mph for heavy-duty trucks, light-duty trucks, and passenger vehicles. All entrance ramp segments were modeled using emissions factors based on a speed of 50 mph. Exit ramp segments were modeled based on the posted speed limits of 35 mph. Figure 4.1-3 and Figure 4.1-4 show the sources and receptors for SR-134 and I-5, respectively.

Figure 4.1-3 Sources and Receptors for State Route 134



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FigX State Route 134 Sources and Receptors

Figure 4.1-4 Sources and Receptors for Interstate 5

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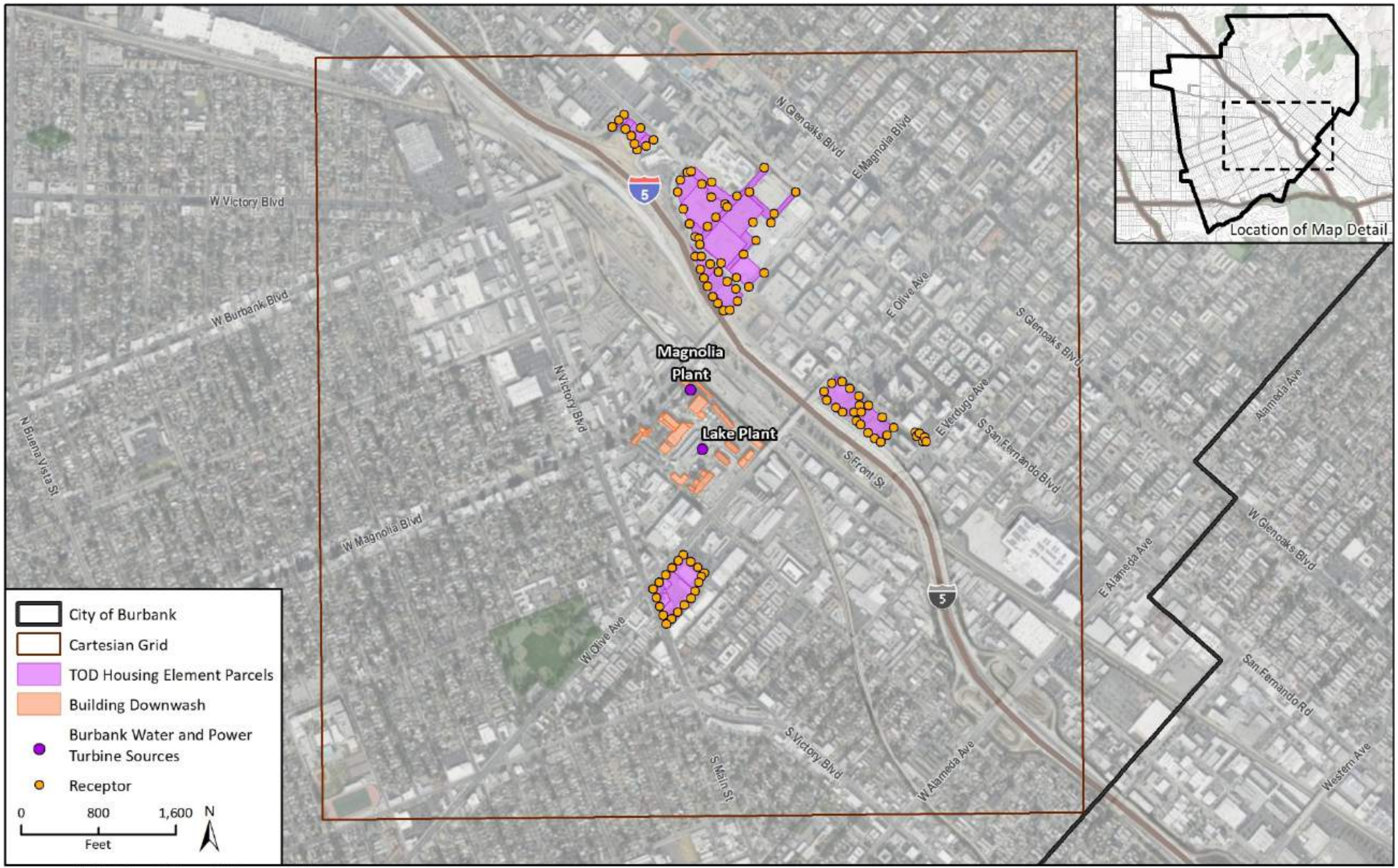
Stationary Source Emissions

BWP is the City’s electricity provider with two active natural gas-fueled combined cycle power plants in the vicinity of development locations proposed under the Project. The Magnolia Power Plant (MPP), an approximately 310-megawatt (MW) natural gas-fueled combined cycle power plant, is located near the intersection of Magnolia Boulevard and Lake Street (BWP 2021a). Lake One is a natural gas-fired plant rated to produce 45 MWs by burning natural gas in a combustion turbine, which is adjacent to MPP at the intersection at North Lake Street and West Olive Avenue (BWP 2021b). Emissions from natural gas-fired stationary equipment include criteria pollutants as well as low levels of particulate matter, and total organic compounds (TOCs). TOCs are a health concern because trace amounts of toxic emissions, such as formaldehyde and benzene, may be emitted if not completely combusted. The following pollutants associated with the power plants’ operations were analyzed: 1-3 butadiene, acetaldehyde, acrolein, benzene, ethylbenzene, formaldehyde, naphthalene, polycyclic aromatic hydrocarbons (PAH), propylene oxide, toluene, and xylenes.

The MPP and Lake One turbines were modeled as point sources. The stack height and stack diameter for both points were provided by the BWP. MPP has a stack height of 150 feet and a stack diameter of 19 feet. Lake One has a stack height of 80 feet and a stack diameter of 12 feet. For both plants, a stack temperature of 356.4 Kelvin and an exhaust velocity of 18.40 meters per second were assumed based on a HRA prepared by BWP in support of a petition to amend for the MPP (California Energy Commission [CEC] 2016). The emission rates for both plants were based on their annual and hourly fuel consumption (million standard cubic feet [mmscf]) multiplied by SCAQMD emission factors (pounds per mmscf) for the aforementioned pollutants (CEC 2021). The MPP and Lake One were modeled together to represent the BWP facility, thus, both sources will herein be referred to as the BWP facility in this analysis. Figure 4.1-5 shows the sources and receptors modeled for the BWP facility HRA.

Figure 4.1-5 Sources and Receptors for Burbank Water and Power Facility



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FigX Burbank Water and Power Sources and Receptors

HEALTH RISK MODELING

Version 21081 of the HARP 2 program was used to calculate the potential risk values associated with the worst case one-hour and average annual toxic emission concentrations at surrounding receptors. The SCAQMD mandatory minimum pathways were used. Table 4.1-6 lists the inputs for the risk scenario and for specific pathways, which are consistent with SCAQMD guidance.

Table 4.1-6 HARP 2 Risk Inputs for Carcinogenic and Non-carcinogenic Risks

HARP 2 Inputs	Setting
Carcinogenic Risk	Individual residents, 30-year exposure duration, Risk Management Policy using the Derived Method
Non-Carcinogenic Risk: Chronic Risk	Individual resident, OEHHA Derived Method
Deposition Velocity	0.02 meters per second
Fraction of Time at Residences	Fraction of time applied for age bins greater than 16 years
Dermal	Warm Climate

Source: SCAQMD 2017

In addition, the reasonably foreseeable development under the proposed Project would be required to include minimum efficiency reporting value (MERV) 13 filters in the building ventilation systems, pursuant to the 2019 California Energy Code Subchapter 7, Section 150(m). The analysis accounts for the inclusion of MERV-13 filters, which remove approximately 90 percent of diesel PM from the intake air (Singer *et al*. 2016). The calculated risk using air dispersion modeling is based on the USEPA's *Exposure Factors Handbook* recommended daily activity pattern, which includes 16.9 hours per day spent inside and 2.3 hours per day spent outside (USEPA 2011). The cancer risks from all three sources were adjusted post-model to account for the reduction from MERV-13 filters.

c. Project Impacts

Threshold 1: Conflict with or obstruct implementation of the applicable air quality plan?

Impact AQ-1 **THE HOUSING ELEMENT UPDATE WOULD NOT CONFLICT WITH THE GROWTH ASSUMPTIONS OR POLICIES OF APPLICABLE AIR QUALITY PLANS SUCH AS SCAQMD'S 2016 AIR QUALITY MANAGEMENT PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

As discussed in Section 4.1.2, *Regional Air Quality Regulations*, SCAB is designated a non-attainment area for the federal and state one-hour and eight-hour ozone standards, the State PM_{10} standards, and the federal and State annual $PM_{2.5}$ standard. The SCAQMD adopted its latest AQMP, the 2016 AQMP, on March 3, 2017.

A project may be inconsistent with the AQMP if it would generate substantial population, housing, or employment growth that exceeds forecasts used in the development of the AQMP or if the project is inconsistent with applicable AQMP control measures. The 2016 AQMP, the most recent AQMP adopted by the SCAQMD, incorporates local general plans and the SCAG 2016-2040 RTP/SCS socioeconomic forecast projections of regional population, housing and employment growth.[1] The upcoming 2022 AQMP will incorporate socioeconomic forecast projections of regional population,

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[1] On September 3, 2020, SCAG's Regional Council formally adopted the 2020-2045 RTP/SCS (titled Connect SoCal). However, the 2016 AQMP was adopted prior to this date and relies on the demographic and growth forecasts of the 2016-2040 RTP/SCS.

housing and employment growth from the recently adopted 2020-2045 RTP/SCS (titled Connect SoCal).

Safety Element Update and Environmental Justice Policies

Updates to the Safety Element as well as the addition of environmental justice policies would not result in additional development that would generate long-term emissions of criteria air pollutants. Therefore, these updates would result in no impact related to consistency with the 2016 AQMP or long-term criteria air pollutant emissions would occur.

Housing Element Update

Operation of the residential developments facilitated by the proposed General Plan Update would generate criteria air pollutant emissions associated with area sources (e.g., fireplaces, architectural coatings, consumer products, and landscaping equipment), energy sources (i.e., use of natural gas for space and water heating and cooking), and mobile sources (i.e., vehicle trips to and from the project site). Emissions associated with reasonably foreseeable development, depending on project type and size, could exceed project-specific thresholds established by the SCAQMD. However, such projects will be required to undergo independent, project-level CEQA review and include mitigation measures, if necessary, to address potentially significant impacts. Therefore, the following analysis focuses on the consistency of the proposed General Plan Update with the growth and emissions forecasts upon which the AQMP is based and with applicable AQMP control measures.

Consistency with AQMP Growth Forecasts

Consistent with State housing element law, the purpose of the Housing Element Update is to accommodate the development of adequate housing to meet housing needs associated with most recent SCAG forecasts of regional growth. The Housing Element Update does not encourage or promote growth beyond the existing growth forecasts. Therefore, although the Housing Element Update would result in the development of 10,456 additional housing units, this increase in housing is consistent with SCAG forecasts of regional growth and the Housing Element would not conflict with the growth assumptions used in the development of the AQMP.[2]

Consistency with AQMP Control Measures

Consistency with the 2016 AQMP is also a function of consistency with applicable AQMP control measures. The AQMP includes specific control measures to reduce air pollutant emissions in order to meet federal and State air quality standards. One of the most important methods the AQMP relies on to achieve its goals is the use of Transportation Control Measures (TCM). TCMs are defined in the 2016 AQMP as “measures for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions.” The TCMs included in the 2016 AQMP are described in SCAG’s Final 2016 RTP/SCS. TCMs identified for Burbank include traffic signal upgrades for arterial intersections within one mile of Interstate 5 or along the State Route 234 Corridor (LAOG1211, LAOG914, LAOG916); construction of a 12-mile bikeway along San Fernando Boulevard, Victory Place, and Burbank Western Channel (LAF1502); and replacement of traffic signal controllers on Glen Oak Boulevard

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[2] As compared to growth forecasts from the 2016-2040 RTP/SCS, growth forecasts from the 2020-2045 RTP/SCS assume a lesser rate of population and housing growth in the city. The 2016-2040 RTP/SCS forecasts population will increase to 118,700 persons and 48,400 households in 2040; the 2020-2045 RTP/SCS forecasts population will only increase to 115,430 persons and 48,640 households in 2045.

and San Fernando Boulevard (LAF3313). These TCMs were scheduled for initiation and completed between 2014 and 2019.

The Housing Element Update would not conflict with implementation of TCMs from the AQMP, or otherwise lessen emissions reductions associated with these measures. Additionally, the following policies in the Housing Element would help reduce air pollutant emissions through promoting transportation and land use design factors, such as intensification and reuse of already developed lands in proximity to transit and commercial areas, that would result in VMT reductions:

Policy 2.1: Direct the majority of new residential development into Downtown Burbank, the Media District and the Golden State/Airport Area to support the building of neighborhoods where people can live, work, shop, and benefit from access to a Metrolink station or other public transit.

Policy 2.2: Update land use regulations that facilitate new opportunities for developing a variety of housing types that include but are not limited to small lot development, condominiums, townhomes, live-work units, micro-units and accessory dwelling units, to accommodate the City's diverse housing needs.

Policy 2.4: Allow residential units in traditionally non-residential areas including mixed-use areas, and support adaptive reuse of non-residential buildings for residential and live-work units.

Policy 2.5: Continue to facilitate the provision of accessory dwelling units (ADUs) and junior accessory dwelling units (JADUs) in all residential districts as a means of creating new opportunities for appropriated scaled and affordable units throughout the community.

Policy 3.8: Encourage use of sustainable and green building design in new and existing housing.

The Housing Element Update would help reduce reliance on the automobile and increase use of alternative transportation modes. By increasing the overall population density of the community and encouraging mixed land uses, implementation of the Housing Element Update would largely reduce per capita automobile trips and travel distances as compared to existing conditions or lower density development more widely distributed throughout the community. This would generally reduce per capita air pollutant emissions associated with vehicle use.

As the Housing Element Update would not conflict with the implementation of TCMs from the AQMP and would include policies to further reduce air pollutant emissions through promoting transportation and land use design factors, the Housing Element Update would be consistent with the AQMP control measures. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 2:	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Impact AQ-2 CONSTRUCTION ACTIVITIES AND OPERATION OF HOUSING DEVELOPMENT UNDER THE HOUSING ELEMENT UPDATE COULD NOT RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF ANY CRITERIA POLLUTANT FOR WHICH THE REGION IS A NON-ATTAINMENT AREA UNDER APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARDS. AIR QUALITY STUDIES AND PROJECT-SPECIFIC EMISSIONS REDUCTION MEASURES WOULD BE REQUIRED FOR LARGE PROJECTS PROPOSED UNDER THE HOUSING ELEMENT UPDATE. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

As discussed under Section 4.1.2, *Regional Regulatory Setting*, criteria pollutants include ozone, carbon monoxide, nitrogen dioxide, PM_{10}, $PM_{2.5}$, sulfur dioxide, and lead. The SCAB is a non-attainment area for the federal standards for ozone and $PM_{2.5}$ and the state standards for ozone, PM_{10}, and $PM_{2.5}$. The Los Angeles County portion of the SCAB is also designated non-attainment for lead (SCAQMD 2016). The SCAB is designated unclassifiable or in attainment for all other federal and state standards.

Safety Element Update and Environmental Justice Policies

Updates to the Safety Element as well as the addition of environmental justice policies would not result in additional development that would generate construction or operational air pollutant emissions. Therefore, these updates would result in no impact related to temporary criteria air pollutant emissions during construction activities would occur.

Housing and Land Use Element Updates

Residential and commercial development facilitated by the proposed zones changes included in the Housing Element Update would generate short-term air pollutant emissions associated with use of heavy-duty construction equipment; truck trips hauling debris, soils, and construction materials; and fugitive dust from demolition and grading. Additionally, long-term air pollutant emissions would result from mobile sources (motor vehicle exhaust), energy use (natural gas combustion), and area sources, such as hearths, landscaping equipment, consumer products, and architectural coatings.

Construction Emissions

The extent of daily emissions, particularly NO_X emissions, generated by construction equipment, would depend on the equipment used and the hours of operation for each project. The extent of $PM_{2.5}$ and PM_{10} emissions would depend upon the following factors: 1) the amount of disturbed soils; 2) the length of disturbance time; 3) whether existing structures are demolished; 4) whether excavation is involved; and 5) whether transporting excavated materials off site is necessary. The extent of VOC emissions would primarily depend on the square footage of buildings being painted and asphalt surfaces being paved each day.

As discussed in Section 4.1.3, *Thresholds of Significance*, the SCAQMD has not established plan-level significance thresholds for construction air pollutant emissions. Given the programmatic nature of the plan, sufficient detail (e.g., construction schedule, amount of soil export, specific buildout parameters) of the development facilitated by the proposed zones changes is not available to perform project-level analysis and thus it would be speculative to analyze project-level impacts. Therefore, a more qualitative approach to characterizing construction-related air emissions has been employed for this analysis.

SAMPLE CONSTRUCTION EMISSIONS SCENARIOS

Table 4.1-7 shows the estimated average daily construction emissions associated with the four sample construction activity scenarios described under Methodology. These scenarios are representative of construction activity intensities for housing development projects under the Housing Element Update.

Results of the emissions modeling demonstrate that daily emissions of NO_X from heavy-duty diesel equipment and trucks during construction activities would approach but not exceed the SCAQMD regional thresholds under reasonably expected circumstances for projects that involve the use of 10 pieces of equipment and 150 heavy truck trips per day. However, projects with large amounts of soil import/export or smaller projects with a large number of workers may have potential to exceed SCAQMD regional thresholds. Therefore, construction activity accommodated under the Housing Element would result in a significant impact related to regional construction emissions of NO_X. The impact includes potential exposure of sensitive receptors to high concentrations of NO_2, which may result in adverse health effects such as breathing difficulties.

Table 4.1-7 Construction Scenarios – Daily Emissions

	Pounds per Day					
Example Scenarios – Daily Activity[1]	**VOC[2]**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2 Heavy-Duty Equipment, 25 Truck Trips	2	27	16	<1	8	4
4 Heavy-Duty Equipment, 50 Truck Trips	4	53	25	<1	10	5
8 Heavy-Duty Equipment, 100 Truck Trips	6	71	39	<1	17	9
10 Heavy-Duty Equipment, 150 Truck Trips	7	94	46	<1	21	12
Regional Significance Threshold	75	100	550	150	150	55
Threshold Exceedance?	**No**	**No**	**No**	**No**	**No**	**No**

[1] Equipment exhaust was estimated using CalEEMod and 8 hours of operation per day. Truck emissions were estimated using CalEEMod and a trip length of 20 miles.

[2] Does not account for application of architectural coatings. Maximum daily VOC emissions may vary greatly depending on the area of coatings applied in a given day.

Source: See Appendix D for modeling results and assumptions.

Although not reflected in Table 4.1-7, maximum daily VOC emissions may vary greatly depending on the area of coatings applied in a given day; and as such, even smaller projects may have potential to exceed SCAQMD regional thresholds. Health effects of VOCs may include eye, nose, throat irritation, headaches, loss of coordination, nausea, damage to liver, kidney, and central nervous system. The SCAQMD has also published Rules 1113 and 1186 that limit VOC content in architectural coating applications. VOC content limits for architectural coatings substantially reduces the likelihood that off-gassing emissions from painting, finishing, and paving activities would exceed applicable SCAQMD air quality significance thresholds.

DEVELOPMENT UNDER HOUSING ELEMENT UPDATE

Development under the Housing Element would result in the development of 10,456 residential units. The sites for these units are all located in urbanized areas in the city and are clustered within one mile of Interstate 5.

Reasonably foreseeable development would be subject to compliance with applicable SCAQMD rules, including Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), and Rule

1113 (Architectural Coatings). Specifically, Rule 403 requires the use of best available control measures for all construction activities to reduce fugitive dust emissions. The major construction elements addressed by Rule 403 include earth moving, disturbed surface areas, unpaved roads, open storage piles, demolition, and other various construction activities. Rule 403 compliance by individual property owners, developers, and/or contractors would reduce temporary construction-related air pollutant emissions of fugitive dust. In addition, Rule 1113 limits the VOC content of architectural coatings to minimize VOC emissions from the off-gassing of exterior and interior paints. Furthermore, the following policies from the General Plan Air Quality and Climate Change Element aim for reduce air quality impacts associated with construction activities:

Policy 2.1: Require projects that generate potentially significant levels of air pollutants, such as landfill operations or large construction projects, to incorporate best available air quality and greenhouse gas mitigation in project design.

Policy 1.6: Require measures to control air pollutant emissions at construction sites and during soil-disturbing or dust-generating activities (i.e., tilling, landscaping) for projects requiring such activities.

Policy 1.7: Require reduced idling, trip reduction, and efficiency routing of transportation for City departments, where appropriate.

Policy 1.10: Give preference to qualified contractors using reduced-emission equipment for City construction projects and contracts for services, as well as businesses that practice sustainable operations.

Compliance with SCAQMD rules and General Plan Air Quality and Climate Change Element policies would reduce the overall level of air quality impacts associated with construction activities facilitated by the proposed zones changes. Moreover, reasonably foreseeable development facilitated by the proposed General Plan Update would be required to implement additional mitigation if project-specific analysis identifies the potential to exceed the SCAQMD’s regional thresholds and LSTs for construction activities. Nonetheless, projects with large amounts of equipment, large number of hauling truck trips, or other unusual circumstances could generate criteria pollutant emissions that exceed the SCAQMD LST thresholds. Therefore, construction-related impacts associated with the Housing Element Update are considered potentially significant.

Operational

As discussed in the Chapter 2, *Project Description*, the City’s housing goal is to ensure that sufficient capacity exists in the Housing Element Update to accommodate the RHNA with a buffer (10,456 housing units) throughout the eight-year planning period. Consistent with the existing housing types in Burbank, this analysis conservatively assumes that 48.5 percent of new development would be single-family residential (5,071 units) and 51.5 percent would be multi-family residential (5,385 units). Table 4.1-8 shows the estimated average daily operational emissions associated with the housing development accommodated under Housing Element Update.

Table 4.1-8 Operational Emissions under the Housing Element Update

	Daily Emissions (Pounds/Day)					
Scenario	**VOC**	**NOX**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Mobile Sources	669	199	3,487	9	435	435
Energy Sources	6	50	22	0	4	4
Area Sources	46	44	432	1	115	31
Total	721	294	3,941	11	554	470
SCAQMD Regional Significance Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Threshold Exceeded?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Source: See Appendix D for modeling results and assumptions.

As shown in Table 4.1-8, the build out of the RHNA accommodated under Housing Element would generate criteria pollutants that exceed the SCAQMD operational daily emission thresholds. Comparison of criteria emissions from build out of all the RHNA accommodated under the Housing Element is conservative as the SCAQMD Regional Significance Thresholds are intended for assessment of individual development projects. The scenario of 10,456 residential units is also conservative as it does not attempt to quantify the difference between reasonably foreseeable development without adoption of the Housing Element Update. Instead, it accounts for all new activity from build out of all RHNA, much of which would occur without adoption of the Housing Element Update. Nonetheless, this comparison illustrates the magnitude of potential emissions and demonstrates how a low-emissions-intensity land use such as residential development may, without proper mitigation, result in potentially significant air quality emissions.

Additional modeling was performed to determine the largest individual project sizes that would typically be anticipated to result in emissions that do not exceed SCAQMD thresholds. Through iterative modeling it was determined that operation of a 553 single-family unit project or a 710 multi-family unit project (multi-family or mixed use) would typically result in emissions that approach but remain less than SCAQMD thresholds (Appendix D).

Mitigation Measures

The following mitigation measures would address construction and operational emissions associated with subsequent development projects.

AQ-1 Construction Emissions Reduction

For projects that would include any of the following: demolition of more 13,500 square feet of building area, greater than 5,000 cubic yards of soil cut/fill, greater than 5-acres of graded area, or use of more than ten pieces of heavy-duty construction equipment and 150 truck trips on any given day during demolition, site clearing, or grading, prior to issuance of a permit to construct and at the expense of the project applicant, the City shall retain a qualified air quality analyst to prepare an Air Quality Impact Analysis to analyze construction emissions . The air quality analysis shall demonstrate that project emissions are less than applicable SCAQMD regional and LST thresholds, and as applicable may include, but is not limited to, the following mitigations:

- Off-road diesel-powered construction equipment greater than 50 horsepower shall meet the USEPA Tier 4 emission standards, where available. In the event that Tier 4 engines are not available for any off-road equipment larger than 100 horsepower, that equipment shall be equipped with a Tier 3 engine or an engine that is equipped with retrofit controls to reduce exhaust emissions of NO_x and DPM to no more than Tier 3 levels unless certified by engine manufacturers or the onsite air quality construction mitigation manager that the use of such devices is not practical for specific engine types.

- All construction equipment shall be outfitted with best available control technology (BACT) devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
- Consistent with SCAQMD Rule 403, construction contractors shall identify and implement best available dust control measures during active construction operations capable of generating dust.

AQ-2 Operations Emissions Reduction

For any project that would include more than 553 single-family residential units, 710 multi-family residential units, or any equivalent combination thereof, prior to issuance of a permit to construct, and at the expense of the project applicant, the City shall retain a qualified air quality analyst to prepare an Air Quality Impact Analysis to analyze operational emissions The air quality analysis shall demonstrate that project emissions are less than applicable SCAQMD regional and LST thresholds, and as applicable may include, but is not limited to, the following mitigation:

- Implementation of a Transportation Demand Management Plan.
  - Installation of additional electric vehicle charging stations
  - Public infrastructure improvements (e.g., bus stop shelter improvements)
  - Carpool or ridesharing programs
  - Subsidized transit costs
  - Unbundled parking costs
  - Bicycle amenities (storage, showers, lockers, etc.)
- Use of all-electric appliances (i.e., elimination of natural gas service)
- Use solar or low emission water heaters that exceed Title 24 requirements
- Increased walls and attic insulation beyond Title 24 requirements
- Required use of electric lawnmowers, leaf-blowers, and chainsaws

Significance After Mitigation

Mitigation Measure AQ-1 would require air quality analysis and appropriate air pollutant emissions reduction measures for projects with construction that exceeds screening criteria for projects with large grading or demolition quantities or large areas of soil disturbance are generally based on SCAQMD Rule 403. Additionally, projects with large amounts of heavy-duty construction equipment would air quality analysis and appropriate mitigation. As shown in Table 4.1-7, the criterion for the maximum number of pieces of heavy-duty construction equipment conservatively correlates to the applicable SCAQMD threshold. As subsequent analysis and mitigation would be required for any project with reasonable potential to generate criteria pollutant emissions that exceed SCAQMD thresholds, impacts from construction emissions would be reduced to less than significant.

Mitigation Measure AQ-2 would require air quality analysis and appropriate air pollutant emissions reduction measures for projects that exceed screening criteria for operational emissions. With implementation of Mitigation Measure AQ-2, air emissions associated with housing development accommodated under Housing Element Update would be reduced to less than SCAQMD significance thresholds. Therefore, impacts from construction emissions would be reduced to less than significant.

Threshold 3: Expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-3 **THE PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

Safety Element Update and Environmental Justice Policies

Updates to the Safety Element as well as the addition of environmental justice policies would not result in additional development that would contribute to carbon monoxide hotspots or generate TAC emissions. Therefore, no impact related to the exposure of sensitive receptors to substantial concentrations of carbon monoxide or TACs would occur.

Housing Element Update

Carbon Monoxide Hotspots

A CO hotspot is a localized concentration of carbon monoxide that is above a carbon monoxide ambient air quality standard; elevated CO levels can occur at roadway intersections that experience high traffic volumes and severe vehicle congestion. Historically, mobile source-related CO concentrations at high-volume (e.g., congested) intersections have been linked to health concerns according to USEPA and SCAQMD.

CO attainment was also demonstrated in the 2003 AQMP and the region has remained in attainment of CO standards ever since. According to the 2004 Revision to the California State Implementation Plan for Carbon Monoxide, requirements for cleaner vehicles, equipment, and fuels have cut peak CO levels in half since 1980 despite growth (CARB 2004). With cleaner technologies, automobile emissions of CO have steadily declined over the years.

A detailed carbon monoxide analysis was conducted during the preparation of SCAQMD's 2003 AQMP. The locations selected for microscale modeling in the 2003 AQMP included high average daily traffic (ADT) intersections in the SCAB, those which would be expected to experience the highest CO concentrations. The highest CO concentration observed was at the intersection of Wilshire Boulevard and Veteran Avenue on the west side of the city and near the I-405 Freeway. The concentration of CO at this intersection was 4.6 ppm, which is well below the state and federal standards. The Wilshire Boulevard/Veteran Avenue intersection has an ADT of approximately 100,000 vehicles per day (SCAQMD 2003). The 2003 1-hour concentration for this intersection was 4.6 ppm, which indicates that the most stringent 1-hour CO standard (20.0 ppm) would likely not be exceeded until the daily traffic at the intersection exceeded more than 400,000 vehicles per day (Los Angeles 2016).

Based on traffic volumes documented in the Transportation Assessment (Appendix E),the highest volume intersection is Victory Boulevard/Victory Place and Burbank Boulevard with a future ADT estimated to be 67,500, which is based on a standard approach of ten times the PM peak hour to get to ADT. The city does not have any intersections that would foreseeably experience daily volumes exceeding 400,000 vehicles per day. Therefore, the Housing Element Update would not have potential to contribute to localized CO concentrations at intersections that exceed state CO standards.

Toxic Air Contaminants

TACs are defined by California law as air pollutants that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health. The following subsections discuss the project's potential to result in impacts related to TAC emissions during construction and operation.

CONSTRUCTION

Construction would result in various TACs associated with equipment exhaust and off-gassing from various materials applied during construction such as coatings. Of these, the TAC of primary concern associated with construction activities is diesel exhaust which may be released in substantial quantities by use of heavy-duty equipment operations and truck traffic. Although health risks associated with acute exposure to diesel exhaust are negligible, chronic exposure may contribute to carcinogenic and non-carcinogenic health risks to the respiratory system. The severity of health effects depends upon several factors including the amount of exposure and the duration of exposure.

The specific locations, amount of heavy-equipment use, and duration of construction activity resulting from the Housing Element Update are not currently known. Health risks associated with construction-related diesel exhaust emissions would only have potential to result in significant health risks for large projects with substantial heavy equipment use for a period of several years in close proximity to sensitive receptors.

Based on a review of project environmental documents for development projects recently analyzed in the city, only extremely large projects would have potential to result in impacts. For example, the for the Replacement Airline Passenger Terminal at Burbank Bob Hope Airport Project involved approximately 42-months of intensive construction, 327.5 acres of grading, and the hauling export of 130,000 cubic yards of soil. Nonetheless, the Environmental Impact Report determined that potential exposure at the maximally exposed residential receptor would be 4.6 in one million and would not exceed the threshold of 10 in one million (Burbank-Glendale-Pasadena Airport Authority 2016). Typical housing development projects accommodated under Housing Element Update would be less intense than this example project.

Future development projects would be required to implement compliance measures for California Off-Road Diesel-Fueled Fleet Regulations and idling limits for diesel-fueled vehicles, which would reduce potential diesel exhaust emissions from construction. Entitlements for large projects are typically subject to discretionary approvals and subsequent air quality analysis is required pursuant to CEQA to demonstrate that projects would not result in air quality impacts at nearby receptors. Mitigation Measure AQ-1 would require air quality analysis and appropriate air pollutant emissions reduction measures for projects with potential for construction to include activities that generate substantial diesel exhaust such as demolition, grading, hauling, of heavy-duty equipment use. For these reasons, construction-related impacts associated with TAC emissions would be less than significant.

OPERATION

Residential land uses are not considered land uses that generate substantial TAC emissions based on review of the air toxic sources listed in SCAQMD's and CARB's guidelines. It is expected that quantities of hazardous TACs generated on-site (e.g., cleaning solvents, paints, landscape pesticides, etc.) for the types of proposed residential land uses would be below thresholds warranting further study under the California Accidental Release Program. Because the project would not include substantial TAC sources and is consistent with CARB and SCAQMD guidelines, it would not result in the exposure of off-site sensitive receptors to significant amounts of carcinogenic or toxic air contaminants. Impacts would be less than significant.

ON-SITE SENSITIVE RECEPTORS

Reasonably foreseeable development under the proposed Project would add new sensitive receptors in Burbank. Although new residences would not exacerbate health risks related to TACs, they could be exposed to such health risks. Such exposure does not constitute a potential significant impact under CEQA, but the potential risks are provided for informational purposes.

A HRA was prepared to assess the potential health effects associated with TAC emissions from I-5, SR-134, associated ramps, and the BWP facility. For the roadways the primary concern is the effect of diesel PM on the on-site sensitive receptors combined with the other vehicle exhaust pollutants described in Section 4.1.1b, *Air Pollutants of Primary Concern*. For the BWP facility, the air toxic emissions emitted by the turbines (i.e., MPP and Lake One) during the electricity generation process are the primary concern.

Cancer risk is expressed as the maximum number of new cases of cancer projected to occur in a population of one million people due to exposure to the cancer-causing substance, typically over a specific exposure duration, such as the high-end residency (95th percentile) of 30 years (SCAQMD 2017). For example, a cancer risk of one in one million means that in a population of one million people, not more than one additional person would be expected to develop cancer as the result of the exposure to the substance causing that risk.

An analysis using the USEPA's AERMOD dispersion model and CARB's Hotspots Analysis and Reporting Program (HARP) risk analysis tool was used to determine the maximally exposed individual receptors (MEIR) for SR-134, I-5, and the BWP facility. The 30-year excess cancer risk, potential acute and chronic (such as lung inflammation, immune suppression, and immune sensitization) health risks for on-site residential units were calculated. A singular MEIR was not identified since the receptors in proximity to SR-134 are approximately two miles southwest of I-5 and the BWP facility. Due to the large distance between the sources, the TAC and TOC concentrations from I-5 and the BWP facility would be negligible at the location of the receptors near SR-134 since concentrations lessen with distance and vice-versa. Furthermore, the MEIRs for each source were identified at different floor levels. Thus, three separate MEIRS were identified for each of the three sources. However, since I-5 and BWP are adjacent, a cumulative cancer risk impact was summed and identified at the location of one receptor. There is no separate SCAQMD cumulative health risk threshold; thus, the cumulative cancer risk is compared to the singular-source SCAQMD threshold of 10 in one million.

State Route 134

The MEIR for SR-134 is located at the at the 3700 Riverside residential building directly south of SR-134 (376484 meters East and 3779902 meters North)[3] . Refer to Figure 4.1-2 for the location of the residential development within the Plan Area. Based on the modeling results, the maximum cancer risk and chronic risk were identified on the ground-level (0 feet), while the maximum acute risk was located on the third floor (22 feet). The cancer and hazard quotient values (chronic and acute hazard risk) do not exceed the SCAQMD thresholds of 10 in one million and 1.0, respectively, as shown in Table 4.1-9. See Figure 4.1-3 for the location of sensitive receptors in relation to SR-134.

Table 4.1-9 Potential Health Risks from State Route 134 at the MEIR

	Maximum Exposed Individual Resident (MEIR)[1]
Cancer Risk	
Incremental Excess Cancer Risk[2]	4.3 in one million
Threshold	*10 in one million*
Threshold Exceeded?	**No**
Chronic Risk	
Chronic Hazard Index[2]	<0.1
Threshold	*1.0*
Threshold Exceeded?	**No**
Acute Risk	
Acute Hazard Index[3]	0.1
Threshold	*1.0*
Threshold Exceeded?	**No**

[1] Based on 30-year resident exposure.

[2] The MEIR for cancer and chronic risk is located at on the ground-level (0 feet) at 3700 Riverside and south of SR-134 (at 376484 meters East and 3779902 meters North).

[3] For acute risk, the MEIR is located at North on the third floor (22 feet) in 3700 Riverside and south of SR-134 (at 376484 meters East and 3779902 meters).

Note: Coordinates for the MEIR location are provided in Universal Transverse Mercator coordinates and are in meters. See Appendix C for the HRA modeling outputs.

Interstate 5

The MEIR for I-5 is located at the at the Transit Oriented Development (TOD) 5 residential building directly east of I-5 (378900 meters East and 3783073 meters North). Refer to Figure 4.1-1 for the location of the TOD development within the Plan Area. Based on the modeling results, the maximum cancer risk, chronic risk, and acute risk were identified on the ground-level (0 feet). The cancer and hazard quotient values (chronic and acute hazard risk) do not exceed the SCAQMD thresholds of 10 in one million and 1.0, respectively, as shown in Table 4.1-10. See Figure 4.1-4 for the location of sensitive receptors in relation to I-5.

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[3] The exact coordinates of the MEIR are provided in Universal Transverse Mercator (UTM) coordinate system. The coordinates are in meters.

Table 4.1-10 Potential Health Risks from Interstate 5 at the MEIR

	Maximum Exposed Individual Resident (MEIR)[1]
Cancer Risk	
Incremental Excess Cancer Risk[2]	5.7 in one million
Threshold	*10 in one million*
Threshold Exceeded?	**No**
Chronic Risk	
Chronic Hazard Index[2]	<0.1
Threshold	*1.0*
Threshold Exceeded?	**No**
Acute Risk	
Acute Hazard Index[3]	<0.1
Threshold	*1.0*
Threshold Exceeded?	**No**

[1] Based on 30-year resident exposure.

[2] The MEIR for cancer and chronic risk is located on the ground-level (0 feet) in TOD 5 and east of I-5 (at 378900 meters East and 3783073 meters North).

[3] For acute risk, the MEIR is located on the ground-level in TOD and east of I-5 (at 378813 meters East and 3783325 meters North).

Note: Coordinates for the MEIR location are provided in Universal Transverse Mercator coordinates and are in meters. See Appendix C for the HRA modeling outputs.

Burbank Water and Power

The MEIR for the BWP facility is located at the TOD 5 residential building approximately 1,220 feet northeast of the BWP facility (378,829 meters east and 3,783,223 meters north). Based on the modeling results, the maximum cancer risk and chronic risk were identified on the ground-level (0 feet). The maximum acute risk associated with BWP facility emissions was located on ground-level in the TOD 11 residential building approximately 480 feet southeast of the BWP facility (378783 meters East and 3782281 meters North). Refer to Figure 4.1-1 for the location of the TOD developments within the Plan Area. The cancer and hazard quotient values (chronic and acute hazard risk) do not exceed the SCAQMD thresholds of 10 in one million and 1.0, as shown in Table 4.1-11. See Figure 4.1-5 for the location of sensitive receptors in relation to the BWP facility.

Cumulative Cancer Risk from Interstate 5 and Burbank Water and Power Facility

As described above, the cumulative cancer risk from I-5 and BWP was based on the maximum summed cancer risk for all sensitive receptors in proximity to both sources. The cumulative summed maximum cancer risk would be located on the ground-level of the TOD 5 residential building (378,856 meters east and 3,783,154 meters north). The cumulative summed cancer risk would be 6.8 in one million, which does not exceed the SCAQMD threshold of 10 in one million. Note that the chronic and acute risk are not summed values and are based on the maximum annual value computed. The chronic and acute risk would then be less than 0.1, which is below the hazard quotient threshold of 1.0.

Table 4.1-11 Potential Health Risks from the Burbank Power and Water at the MEIR

	Maximum Exposed Individual Resident (MEIR)[1]
Cancer Risk	
Incremental Excess Cancer Risk[2]	1.6 in one million
Threshold	*10 in one million*
Threshold Exceeded?	**No**
Chronic Risk	
Chronic Hazard Index[2]	<0.1
Threshold	*1.0*
Threshold Exceeded?	**No**
Acute Risk	
Acute Hazard Index[3]	<0.1
Threshold	*1.0*
Threshold Exceeded?	**No**

[1] Based on 30-year resident exposure.

[2] The MEIR for cancer and chronic risk is located on the ground-level (0 feet) in TOD 5 approximately 1,220 feet northeast of BWP (at 378829 meters East and 3783223 meters North_.

[3] For acute risk, the MEIR is located on the ground-level in TOD 11 approximately 480 feet southeast of BWP (at 378783 meters East and 3782281 meters North).

Note: Coordinates for the MEIR location are provided in Universal Transverse Mercator coordinates and are in meters. See Appendix C for the HRA modeling outputs.

4.1.4 Cumulative Impacts

As discussed in *Environmental Setting*, the SCAB is named so because its geographical formation is that of a basin, with the surrounding mountains trapping the air and its pollutants in the valleys below. The SCAB encompasses all of Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside Counties. Cumulative projects would include any reasonably anticipated development in SCAB for regional air quality impacts, as well as housing development accommodated under the Housing Element Update for localized air quality impacts.

Conflict with Applicable Air Quality Plan

The Housing Element Update does not encourage or promote growth beyond the SCAG forecasts of regional growth; therefore, the Housing Element Update would not conflict with the growth assumptions used in the development of the AQMP. The Housing Element Update would include policies that help reduce air pollutant emissions through promoting transportation and land use design factors, such as intensification and reuse of already developed lands in proximity to transit and commercial areas, that would result in VMT reductions and would not conflict with implementation of TCM from the AQMP. Similar to direct air quality impacts, cumulative air quality impacts would be less than significant.

National and State Air Quality Standards

In order to assess cumulative impacts of emissions, the SCAQMD recommends that projects be evaluated to determine whether they would be consistent with AQMP performance standards and project-specific emissions thresholds. In the case of the Housing Element Update, air pollutant emissions would be considered to be cumulatively considerable if the new sources of emissions exceed SCAQMD project-specific emissions thresholds. The cumulative context for consideration of most air quality impacts is the SCAB. The context for localized significance thresholds is within 1,500 feet of the project site per SCAQMD LST guidance, as health risks generally decrease by about 90 percent at 1,500 feet from the emission source (SCAQMD 2017).

As discussed under Impact 4.1-2, construction activities and operation of development accommodated under Housing Element could result in significant impacts related to criteria emissions. Without a specific construction schedule, timing and emission levels cannot be accurately estimated; it is possible that multiple construction projects will occur concurrently and immediately adjacent to one another. Similarly, without specific land use details, it is possible that the Housing Element may accommodate operation of large projects in proximity (e.g., residential or mixed-use high-rises) and thereby result in cumulative operations emissions that exceed SCAQMD thresholds. Therefore, reasonably expected construction and operation from the Housing Element Update has the potential to be cumulatively considerable. However, implementation of Mitigation Measures AQ-1 and AQ-2 would reduce emissions generated by various construction activities, including equipment operation, truck trips, and painting and operational sources including vehicle use, natural gas use, and other area sources. Furthermore, housing development accommodated under the Housing Element Update would include development that is substantially similar to existing residential projects and continued enforcement of existing regulations would reduce potential for multiple adjacent development projects to contribute to deterioration of air quality. Cumulative air quality impacts would be less than significant.

Toxic Air Contaminants

The Housing Element would not directly exacerbate existing conditions related to TAC concentrations as operation of residential development is not associated with substantial TAC emissions. Each individual future project would be responsible for demonstrating compliance with the SCAQMD thresholds of 10 in one million for carcinogenic risks and a hazard index of 1.0 for non-carcinogenic chronic and acute health risks; These thresholds are designed to protect public health and prevent exposures to substantial pollutant concentrations. For these reasons, cumulative impacts related to operational emissions of toxic air contaminants would not be cumulatively considerable. Cumulative impacts would be less than significant.

4.2 Biological Resources

This section assesses potential impacts to biological resources. The urbanized environment in the City of Burbank (City) limits the amount of biological resources that are present and those that may be affected by the proposed project. As such, the biological resources addressed in this section are limited to nesting birds and their habitat. Moreover, the Initial Study (Appendix B) concludes that reasonably foreseeable development under the Housing and Safety Element Update (proposed Project) would not have the potential to result in significant effects related to other biological resource topics, such as special status species; wetlands, streams, rivers, and riparian habitat; wildlife movement; Habitat Conservation Plans (HCPs); and other applicable plans, policies, and ordinances intended to preserve and/or protect biological resources. Thus, these topics are not further addressed herein.

4.2.1 Environmental Setting

a. Regional Setting

The City of Burbank, where development resulting from the Housing and Safety Element Update would occur, lies in Los Angeles County, which encompasses approximately 4,084 square miles. The County borders 70 miles of coast on the Pacific Ocean and extends west to the Mojave Desert. The County is divided west-to-east by the San Gabriel Mountains, which are part of the Transverse Ranges of southern California. The region’s climate is characteristic of a Mediterranean climate system with hot, dry summers and cooler, wetter winters.

b. Project Setting

The Housing Element and Safety Update would apply to the entire geographic area located within the boundaries of the City of Burbank, which encompasses 17.1 square miles. Burbank is located in the central portion of Los Angeles County, approximately 12 miles north of downtown Los Angeles. The northeastern part of the City is located along the foothills of the Verdugo Mountains and the western edge of the City is located near the eastern part of the San Fernando Valley. The City is bisected by the Interstate 5 (I-5) and is adjacent to the developed areas of the cities of Los Angeles and Glendale.

Burbank is comprised mainly of residential and commercial land uses, but also contains various patches of open space. Three types of open space totaling approximately 2,700 acres occur throughout the City: public parks, public and private open space areas, and cemeteries. Multiple public parks are located throughout the City. Private open spaces areas include the Lakeside Country Club at the south end and the Valhalla Cemetery south of Hollywood Burbank Airport. The Verdugo Mountains provide important habitat connectivity for many plant and animal species. Open space areas in the City are meant to be preserved, with only minimal structures and improvements that are necessary and complementary to the open space use. Per Policy 8.1 of the Open Space and Conservation Element of the City’s Burbank2035 General Plan, development that diminishes sensitive or protected plant and animal communities is prohibited (City of Burbank 2013a). Of the 732 acres of parks in Burbank, approximately 603 acres are on the edge of the City, near the Verdugo Mountains. Urbanization in the City has substantially reduced the abundance and diversity of biological resources, though landscape areas such as street medians, parkways, and other green areas are located throughout the City and provide habitat for nesting birds and potentially other wildlife (City of Burbank 2013a).

4.2.2 Regulatory Setting

a. Federal Regulations

Federal Endangered Species Act

Under the Federal Endangered Species Act (ESA), authorization is required to “take” a listed species. Take is defined under Section 3 of the ESA as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Under federal regulation (50 Code of Federal Regulations [CFR] Sections 17.3, 222.102); “harm” is further defined to include habitat modification or degradation where it would be expected to result in death or injury to listed wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Critical habitat is a specific geographic area(s) that is essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery. Section 7 of the Federal ESA outlines procedures for federal interagency cooperation to conserve federally listed species and designated critical habitat.

Section 7(a)(2) of the ESA and its implementing regulations require federal agencies to consult with US Fish and Wildlife Service (USFWS) or National Marine Fisheries Service (NMFS) to ensure that they are not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species, or result in the destruction or adverse modification of critical habitat. For projects where federal action is not involved and take of a listed species may occur, the project proponent may seek to obtain an incidental take permit under Section 10(a) of the ESA. Section 10(a) allows USFWS to permit the incidental take of listed species if such take is accompanied by a Habitat Conservation Plan (HCP) that includes components to minimize and mitigate impacts associated with the take.

The USFWS and NMFS share responsibility and regulatory authority for implementing the ESA (7 United States Code [USC] Section 136, 16 USC Section 1531 et seq.).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds, and prohibits the removal of nests occupied by migratory birds. The USFWS administers the MBTA.

Bald and Golden Eagle Protection Act (16 USC §§ 668 – 668d)

The Bald and Golder Eagle Protection Act makes it illegal to possess, sell, or hunt bald and golden eagles, including their feathers, nests, eggs, or body parts.

b. State Regulations

California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) is responsible for administration of the California Endangered Species Act (CESA). For projects that may affect both a State and federal listed species, compliance with the FESA will satisfy the CESA, provided the CDFW determines that the federal incidental take authorization is consistent with the CESA.

Take is defined in the California Fish and Game Code (CFGC) Section 86 as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The CESA allows for take incidental to otherwise lawful activities under CFGC Section 2081. Project proponents wishing to obtain incidental take permits are able to do so through a permitting process outlined in California Code of Regulations (CCR) Section 783. Additionally, some sensitive mammals and birds are protected by the state as Fully Protected Mammals or Fully Protected Birds, as described in the CFGC, Sections 4700 and 3511, respectively.

Projects that may result in a take of a California listed species require a take permit under the CESA. The federal and State acts lend protection to species considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or den locations, communal roosts, and other essential habitat. Unlike the FESA, the CESA prohibits the take of not just listed endangered or threatened species, but also candidate species (species petitioned for listing).

The CESA defines an endangered species as:

> …a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

A threatened species is defined as:

> …a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species.

Candidate species are defined as:

> …a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list.

Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the FESA, CESA does not include listing provisions for invertebrate species. Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened or endangered species by stating:

> …no person shall import into this State, export out of this State, or take, possess, purchase, or sell within this State, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided.

Natural Communities Conservation Planning Act

The Natural Communities Conservation Planning Act was established by the California Legislature, is directed by the CDFW, and is implemented by the State, as well as public and private partnerships to protect habitat in California. The Natural Communities Conservation Planning Act takes a regional approach to preserving habitat. A Natural Communities Conservation Plan (NCCP) identifies and provides for the regional protection of plants, animals and their habitats, while allowing compatible and appropriate economic activity. Once an NCCP has been approved, CDFW may provide take authorization for all covered species, including fully protected species, Section 2835 of the CFGC.

Nesting Bird Protection (CFGC §§ 3503, 3503.5, 3513, 3800)

According to CFGC Section 3503 it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird [except English sparrows (*Passer domesticus*) and European starlings (*Sturnus vulgaris*)]. Sections 3503 and 3513 prohibit the taking of specific birds, their nests, eggs, or any portion thereof during the nesting season. Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the federal MBTA, prohibiting the take or possession of any migratory nongame bird. Section 3800 states that all birds occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds are nongame birds.

Fully Protected Species (CFGC §§ 3511, 4700, 5050, 5515)

California Fully Protected Species designation protects wildlife species that are rare or face possible extinction. Fully Protected Species include designated birds (Section 3511), mammals (Section 4700), reptiles and amphibians (Section 5050), and fish (Section 5515).

c. Local Regulations

Burbank2035: General Plan Goal 8, Policies 8.1 and 8.2

Goal 6: Open Space Resources. Burbank's open space areas and mountain ranges are protected spaces supporting important habitat, recreation, and resource conservation.

> **Policy 6.2:** Protect the ecological integrity of open spaces and maintain and restore natural habitats and native plant communities.

Goal 8: Biological Resources. Burbank's high-quality biological communities are sustained

> **Policy 8.1:** Prohibit development that jeopardizes or diminishes the integrity of sensitive or protected plant and animal communities.
>
> **Policy 8.2:** Improve ecological and biological conditions in urban and natural environments when reviewing proposals for site development, as well as when making public improvements.

4.2.3 Impact Analysis

a. Thresholds of Significance

Thresholds of significance are based on the questions in Appendix G of the CEQA Guidelines. The Initial Study prepared for the Project (Appendix B) determined that a potentially significant impact might occur under the following threshold and therefore will be analyzed in this section of the EIR.

1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service

The Initial Study (Appendix B) determined that the Project could result in potentially significant impacts related to nesting birds under Threshold 1. As such, an analysis of this issue is included in this section of the EIR. The Initial Study found no potentially significant impacts related to special status species (Threshold 1), riparian habitat or sensitive natural communities (Threshold 2), state or federally protected wetlands (Threshold 3), wildlife movement (Threshold 4), local biological resource policies or ordinances (Threshold 5), or habitat conservation plans (Threshold 6); therefore, these issues are not studied further herein.

1. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service
2. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
3. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites
4. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
5. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

b. Project Impacts

Threshold 1:	Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?

Impact BIO-1 THE PROJECT COULD RESULT IN DIRECT OR INDIRECT IMPACTS TO NESTING BIRDS THROUGH VEGETATION REMOVAL AND CONSTRUCTION DURING THE NESTING SEASON. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

Development would be prioritized on infill sites in urbanized areas of the City. Reasonably foreseeable development under the Housing Element Update would be primarily concentrated on underutilized sites that have been previously developed and disturbed, but that may still contain vegetation or structures suitable to support nesting birds. The Housing Element Update includes 19 rezoning sites, 12 of which are concentrated in the urban downtown region of Burbank and 7 of which are located in urban areas near the Hollywood Burbank Airport. Although these rezoning sites are urban and developed, the existing buildings and associated ornamental vegetation may provide suitable habitat for nesting birds and raptors. For example, the Downtown BJs/ Black Angus housing opportunity site has multiple trees surrounding the existing buildings that could support nests. As a result, development under the Housing Element Update could directly and indirectly affect nesting birds, which as described in the *Environmental Setting* are protected under CFGC Sections 3503, 3503.5, and 3513 as well as the MBTA. CFGC Sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. Section 3503.5 of the Code protects all birds-of-prey and their eggs and nests against take, possession, or destruction. Section 3515 makes it a State-level offense to take any bird in violation of the federal MBTA. Violation of these provisions would be considered a potentially significant impact.

Construction of reasonably foreseeable development under the proposed Project could potentially occur during the bird nesting season, which is generally from March 1 through August 31 and begins as early as February 1 for raptors. As such, potential construction impacts resulting in vegetation trimming or removal during the nesting season would have the potential to disturb active nests, either directly (e.g., injury, mortality, or disruption of normal nesting behaviors) or indirectly (e.g., construction noise, dust, and vibration from equipment). Therefore, construction activities have the potential to disturb nesting birds and raptors, which would be a potentially significant.

Mitigation Measure

The following mitigation measure requires a nesting bird survey for development activities during the nesting season.

BIO-1 Nesting Bird Avoidance

Prior to issuance of grading permits for individual housing developments that will include disturbance of vegetation, structures, or other areas where bird nests could be present, implement the following requirements for any construction activities that would occur during the bird breeding season (February 1 through August 31):

Applicant shall submit a pre-construction nesting bird survey shall be conducted no more than seven days prior to initiation of grading or construction activities. The nesting bird pre-construction survey shall be conducted on foot on the construction site, including a 100-foot buffer, and in inaccessible areas (e.g., private lands) from afar using binoculars to the extent practical. The survey shall be conducted by a qualified biologist familiar with the identification of avian species known to occur in southern California and a copy of the study shall be submitted to the Community Development Department and Building and Safety Division. The cost to hire a qualified biologist shall be borne entirely by the developer/project applicant.

If nests are found, an avoidance buffer shall be demarcated by a qualified biologist with bright orange construction fencing, flagging, construction lathe, or other means to mark the boundary. All construction personnel shall be notified as to the existence of the buffer zone and to avoid entering the buffer zone during the nesting season. No parking, storage of materials, or construction activities shall occur within this buffer until the biologist has confirmed that breeding/nesting is completed, and the young have fledged the nest. Encroachment into the buffer shall occur only at the discretion of the qualified biologist.

A survey report shall be prepared by the qualified biologist documenting and verifying compliance with the above requirements and applicable State and Federal regulations protecting birds that shall be submitted to the City of Burbank. The qualified biologist shall serve as a construction monitor during those periods when construction activities would occur near active nest areas to ensure that no inadvertent impacts on these nests would occur.

Significance After Mitigation

Implementation of Mitigation Measure BIO-1 would reduce potential impacts to nesting birds to a less than significant level by ensuring that active nests are identified and avoided, as necessary, which would avoid potential conflicts with the MBTA and CFGC.

4.2.4 Cumulative Impacts

The area to analyze cumulative biological resource impacts includes the City limits. As defined in Section 3.3, vegetation, including trees, located in the City could potentially support nesting migratory birds. As discussed previously, the CFGC and MBTA protect migratory avian species when they are nesting. Compliance with the CFGC and MBTA by all reasonably foreseeable development under the Housing and Safety Element Update would ensure that cumulative impacts to migratory birds would not be significant. Such regulatory compliance, including implementation of Mitigation Measure BIO-1, would ensure that the implementation of the proposed Project would not contribute to cumulatively considerable impacts related to nesting bird disturbance.

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4.3 Cultural Resources/Tribal Cultural Resources

This section assesses potential impacts to cultural resources. Rincon Consultants, Inc. (Rincon) conducted a cultural resources assessment for the 6th Cycle Housing and Safety Element Update to the Burbank2035 General Plan project through a desktop literature review. Impacts to prehistoric archaeological resources, historic-period resources, and Tribal cultural resources are addressed.

4.3.1 Environmental Setting

Cultural resources include prehistoric resources, historic-period resources, and Tribal cultural resources. Prehistoric resources represent the remains of human occupation prior to European settlement. Historic-period resources represent remains after European settlement and may be part of a "built environment," including man-made structures used for habitation, work, recreation, education and religious worship, and may also be represented by houses, factories, office buildings, schools, churches, museums, hospitals, bridges and other structural remains. Tribal cultural resources include ethnographic elements pertaining to Native American issues and values.

a. Prehistoric Context

During the twentieth century, many archaeologists developed chronological sequences to explain prehistoric cultural changes in all or portions of southern California (c.f., Moratto 1984; Jones and Klar 2007). Wallace (1955, 1978) devised a prehistoric chronology for the southern California coastal region based on early studies and focused on data synthesis that included four horizons: Early Man, Milling Stone, Intermediate, and Late Prehistoric. Though initially lacking the chronological precision of absolute dates (Moratto 1984), Wallace's (1955) synthesis has been modified and improved using thousands of radiocarbon dates obtained by southern California researchers over recent decades (Koerper and Drover 1983; Mason and Peterson 1994; Koerper et al. 2002; Byrd and Raab 2007). The prehistoric chronological sequence for southern California presented below is a composite based on Wallace (1955) and Warren (1968) as well as later studies, including Koerper and Drover (1983).

Early Man Horizon (10,000 – 6,000 B.C.)

Numerous pre-8,000 B.C. sites have been identified along the mainland coast and Channel Islands of southern California (c.f., Moratto 1984; Erlandson 1991; Rick et al. 2001; Johnson et al. 2002; Jones and Klar 2007). The Arlington Springs site on Santa Rosa Island produced human femurs dated to approximately 13,000 years ago (Johnson et al. 2002; Arnold et al. 2004). On nearby San Miguel Island, human occupation at Daisy Cave (CA-SMI-261) has been dated to nearly 13,000 years ago and included basketry greater than 12,000 years old, the earliest recorded on the Pacific Coast (Arnold et al. 2004).

Although few Clovis or Folsom style fluted points have been found in southern California (e.g., Erlandson et al. 1987; Dillon 2002), Early Man Horizon sites are generally associated with a greater emphasis on hunting than later horizons. Recent data indicate that the Early Man economy was a diverse mixture of hunting and gathering, including a significant focus on aquatic resources in coastal areas (e.g., Jones et al. 2002) and on inland Pleistocene lakeshores (Moratto 1984). A warm and dry 3,000-year period called the Altithermal began around 6,000 B.C. The conditions of the

Altithermal are likely responsible for the change in human subsistence patterns at this time, including a greater emphasis on plant foods and small game.

Millingstone Horizon (6,000 – 3,000 B.C.)

The Wallace (1955:219) defined the Milling Stone Horizon as "marked by extensive use of milling stones and mullers, a general lack of well-made projectile points, and burials with rock cairns." The dominance of such artifact types indicate a subsistence strategy oriented around collecting plant foods and small animals. A broad spectrum of food resources was consumed, including small and large terrestrial mammals, sea mammals, birds, shellfish and other littoral and estuarine species, near-shore fishes, yucca, agave, and seeds and other plant products (Kowta 1969; Reinman 1964). Variability in artifact collections over time and from the coast to inland sites indicates that Milling Stone Horizon subsistence strategies adapted to environmental conditions (Byrd and Raab 2007). Lithic artifacts associated with Milling Stone Horizon sites are dominated by locally available tool stone and in addition to ground stone tools, such as manos and metates, chopping, scraping, and cutting tools, are very common. Kowta (1969) attributes the presence of numerous scraper-plane tools in Milling Stone Horizon collections to the processing of agave or yucca for food or fiber. The mortar and pestle, associated with acorns or other foods processed through pounding, were first used during the Milling Stone Horizon and increased dramatically in later periods (Wallace 1955, 1978; Warren 1968).

Two types of artifacts that are considered diagnostic of the Milling Stone period are the cogged stone and discoidal, most of which have been found within sites dating between 4,000 and 1,000 B.C. (Moratto 1984), though possibly as far back as 5,500 B.C. (Couch et al. 2009). The cogged stone is a ground stone object that has gear-like teeth on the perimeter and is produced from a variety of materials. The function of cogged stones is unknown, but many scholars have postulated ritualistic or ceremonial uses (c.f., Eberhart 1961; Dixon 1968). Similar to cogged stones, discoidals are found in the archaeological record subsequent to the introduction of the cogged stone. Cogged stones and discoidals were often purposefully buried, or "cached." Cogged stones have been collected in Los Angeles County, though their distribution appears to center on the Santa Ana River basin (Eberhart 1961).

Intermediate Horizon (3,000 B.C. – A.D. 500)

Wallace's Intermediate Horizon dates from approximately 3,000 B.C.-A.D. 500 and is characterized by a shift toward a hunting and maritime subsistence strategy, as well as greater use of plant foods. During the Intermediate Horizon, a noticeable trend occurred toward greater adaptation to local resources including a broad variety of fish, land mammal, and sea mammal remains along the coast. Tool kits for hunting, fishing, and processing food and materials reflect this increased diversity, with flake scrapers, drills, various projectile points, and shell fishhooks being manufactured.

Mortars and pestles became more common during this transitional period, gradually replacing manos and metates as the dominant milling equipment. Many archaeologists believe this change in milling stones signals a change from the processing and consuming of hard seed resources to the increasing reliance on acorn (e.g., Glassow et al. 1988; True 1993). Mortuary practices during the Intermediate typically included fully flexed burials oriented toward the north or west (Warren 1968).

Late Prehistoric Horizon (A.D. 500 – Historic Contact)

During Wallace's (1955, 1978) Late Prehistoric Horizon the diversity of plant food resources and land and sea mammal hunting increased even further than during the Intermediate Horizon. More classes of artifacts were observed during this period and high quality exotic lithic materials were used for small finely worked projectile points associated with the bow and arrow. Steatite containers were made for cooking and storage and an increased use of asphalt for waterproofing is noted. More artistic artifacts were recovered from Late Prehistoric sites and cremation became a common mortuary custom. Larger, more permanent villages supported an increased population size and social structure (Wallace 1955).

Warren (1968) attributes this dramatic change in material culture, burial practices, and subsistence focus to the westward migration of desert people he called the Takic, or Numic, Tradition in Los Angeles, Orange, and western Riverside counties. This Takic Tradition was formerly referred to as the "Shoshonean wedge" (Warren 1968). However, this nomenclature is no longer used to avoid confusion with ethnohistoric and modern Shoshonean groups (Shipley 1978).

b. Ethnographic and Historical Background

Ethnography

Burbank is located in the traditional territory of the Native American group known as the Gabrieleño. The name "Gabrieleño" denotes those people who were administered by the Spanish from the San Gabriel Mission. It includes people from the Gabrieleño area proper, as well as other social groups nearby (Kroeber 1925; Plate 57; Bean and Smith 1978:538). The term Gabrieleño was imposed upon the Tribe by Spanish Missionaries. Because of this, descendants have chosen to use their original name, Tongva (Welch 2006). This term is used in the remainder of this section to refer to the pre-contact inhabitants of the Los Angeles Basin and their descendants. Archaeological evidence points to the Tongva arriving in the Los Angeles Basin sometime around 500 BCE, but this has been a subject of debate. Tongva lands encompassed the greater Los Angeles Basin, three Channel Islands, and the present-day cities of San Clemente, San Nicolas, and Santa Catalina.

The Tongva language belongs to the Takic branch of the Uto-Aztecan language family, which can be traced to the Great Basin region (Mithun 2001). This language family includes dialects spoken by the nearby Juaneño and Luiseño to the southeast, the Serrano and Cahuilla to the northeast, and the Tataviam to the northwest. Yet, it is considerably different from those of the Chumash people living to the northwest and the Diegueño (including Ipai, Tipai, and Kumeyaay) people living to the south.

The Tongva established large, permanent villages in the fertile lowlands along rivers and streams, and in sheltered areas along the coast. A total Tribal population is estimated to have been at least 5,000 in 1770 (Bean and Smith 1978:540), but recent ethnohistoric work suggests a number closer to 10,000 (O'Neil 2002). Political organization followed a patrilocal and patrilineal pattern. Typically, the oldest son would lead a family. Chieftainship was also passed down patrilineally. A *Chari*, or chief of a village or political grouping was separated from any religious leadership (King 2011).

At the time of Spanish contact, the basis of Tongva religious life was the Chinigchinich cult, centered on the last of a series of heroic mythological figures. Chinigchinich gave instruction on laws and institutions, and taught people how to dance, the primary religious act for this society. He later withdrew into heaven, where he rewarded the faithful and punished those who disobeyed his laws (Kroeber 1925: 637–638). The Chinigchinich religion seems to have been relatively new when the Spanish arrived. It was spreading south into the Southern Takic groups even as Christian missions were being built. Elements of Chinigchinich beliefs suggest it was a syncretic mixture of Christianity and native religious practices (McCawley 1996: 143-144).

Houses constructed by the Tongva were large, circular, domed structures made of willow poles, thatched with tule and could hold up to 50 people (Bean and Smith 1978). Other structures served as sweathouses, menstrual huts, ceremonial enclosures, and probable communal granaries. Cleared fields for races and games, such as lacrosse and pole throwing, were created adjacent to Tongva villages (McCawley 1996: 27).

The Tongva subsistence economy was centered on gathering and hunting. The surrounding environment was rich and varied, and the Tribe exploited mountains, foothills, valleys, deserts, riparian, estuarine, and open and rocky coastal eco-niches. Like most native Californians, acorns were the staple food. By the time of the early Intermediate Period, acorn processing was an established industry. Acorns were supplemented by the roots, leaves, seeds, and fruits of a wide variety of flora (e.g., islay, cactus, yucca, sages, and agave). Fresh water and saltwater fish, shellfish, birds, reptiles, insects, and large and small mammals were also consumed (Kroeber 1925:631–632; Bean and Smith 1978:546; McCawley 1996: 119–123, 128–131).

The Tongva used a wide variety of tools and implements to gather food resources. These included the bow and arrow, traps, digging sticks, nets, blinds, throwing sticks and slings, spears, harpoons, and hooks. The Tongva made oceangoing plank canoes (known as a ti'at) capable of holding six to 14 people used for fishing, travel, and trade between the mainland and the Channel Islands. Tule reed canoes were employed for near-shore fishing (McCawley 1996: 117-127). Tongva people processed food with a variety of tools, including hammerstones and anvils, mortars and pestles, manos and metates, strainers, leaching baskets and bowls, knives, bone saws, and wooden drying racks. Food was consumed from a variety of vessels. Catalina Island steatite was used to make ollas and cooking vessels (Kroeber 1925:629; McCawley 1996: 129–138).

Deceased Tongva were either buried or cremated. Inhumation was more common on the Channel Islands and the neighboring mainland coast, and cremation was more predominate on the remainder of the coast and in the interior (Harrington 1942; McCawley 1996:157). At the behest of the Spanish missionaries, cremation essentially ceased during the post-Contact period (McCawley 1996:157).

Historic Period

The post-contact history of California is generally divided into three time spans: the Spanish period (1769–1822), the Mexican period (1822–1848), and the American period (1848–present). Each of these periods is described below.

Spanish Period (1769 – 1822)

Spanish exploration of California began when Juan Rodriguez Cabrillo led the first European expedition into the region in 1542. For more than 200 years after his initial expedition, Spanish, Portuguese, British, and Russian explorers sailed the California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003). In 1769, Gaspar de Portolá and Franciscan Father Junipero Serra established the first Spanish settlement in what was then known as Alta (upper) California at Mission San Diego de Alcalá. This was the first of 21 missions erected by the Spanish between 1769 and 1823. It was during this time that initial Spanish settlement of the Project vicinity began. Mission San Fernando Rey de España, approximately 12 miles northwest of Burbank, was founded in 1797 as the 17th mission to be established in California. Mission San Fernando Rey de España's location closed the gap between Mission San Buenaventura on the Ventura coast, and Mission San Gabriel Arcángel in the Los Angeles interior (California Missions Foundation, N.d.).

Mexican Period (1822 – 1848)

The Mexican Period commenced when news of the success of the Mexican War of Independence (1810-1821) against the Spanish crown reached California in 1822. This period saw the privatization of mission lands in California with the passage of the Secularization Act of 1833. This Act federalized mission lands and enabled Mexican governors in California to distribute former mission lands to individuals in the form of land grants. Successive Mexican governors made approximately 700 land grants between 1833 and 1846, putting most of the state's lands into private ownership for the first time (Shumway 2007).

The Mexican Period for the Los Angeles County region ended in early January 1847. Mexican forces fought and lost to combined U.S. Army and Navy forces in the Battle of the San Gabriel River on January 8 and in the Battle of La Mesa on January 9 (Nevin 1978). On January 10, leaders of the pueblo of Los Angeles surrendered peacefully after Mexican General Jose Maria Flores withdrew his forces. Shortly thereafter, newly appointed Mexican Military Commander of California Andrés Pico surrendered all of Alta California to U.S. Army Lieutenant Colonel John C. Fremont in the Treaty of Cahuenga (Nevin 1978).

American Period (1848 – Present)

The American Period officially began with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the United States agreed to pay Mexico $15 million for conquered territory including California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming. Settlement of the Los Angeles region increased dramatically in the early American Period.

The discovery of gold in northern California in 1848 led to the California Gold Rush, though the first California gold found by settlers was previously discovered in Placerita Canyon in 1842 (Workman 1935; Guinn 1977). By 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to immigrate to the state, particularly after the completion of the First Transcontinental Railroad in 1869. The U.S. Congress in 1854 agreed to let San Pedro become an official port of entry. By the 1880s, the railroads had established networks from the port and throughout the county of Los Angeles, resulting in fast and affordable shipment of goods, as well as a means to transport new residents to the booming region (Dumke 1944). New residents included many health-seekers drawn to the area by the fabled Southern California climate in the 1870s–1880s.

Burbank

In 1867, New Hampshire dentist Dr. David Burbank purchased the land encompassing Rancho San Rafael and Rancho La Providencia, a portion of which eventually became the modern-day city of Burbank. Dr. Burbank combined the land into one large ranch and sold portions of his property to the Southern Pacific Railroad, land investors, and development companies. On May 1, 1887, the town of Burbank was officially founded and the town incorporated in 1911 (City of Burbank 2017).

Burbank experienced tremendous growth following World War II. Growth was induced further in 1962, when the National Broadcasting Company (NBC) moved its network television headquarters to the City; and in 1978, when the Bob Hope Airport (now Hollywood Burbank Airport) was purchased from Lockheed. Today, Burbank is known as the “media capital of the world” in reference to its longstanding relationships with entertainment companies, such as Warner Brothers and Disney (City of Burbank 2017).

Geologic Setting

Burbank is in the eastern portion of the San Fernando Valley situated along the southwestern edge of the Verdugo Mountains within the east-west trending Transverse Ranges geomorphic province (California Geological Survey 2002; Yerkes and Campbell 2005). The San Fernando Valley is approximately 23 miles wide and 12 miles long and is underlain by a structural depression that contains a thick accumulation of more than 20,000 feet of Cenozoic alluvial, shallow marine, and deep shelf sedimentary deposits (McCulloh and Beyer 2004). The alluvium in the San Fernando Valley is mainly derived from the Santa Monica Mountains to the south, the Santa Susana Mountains to the north, the Simi Hills to the west, the San Gabriel Mountains to the northeast, and the Verdugo Mountains to the east. The San Fernando Valley is structurally complex and is transected by several faults, including the San Fernando fault, Sylmar fault zone, and Verdugo fault.

4.3.2 Regulatory Setting

This section discusses applicable Federal, State, and local laws, ordinances, regulations, and standards governing cultural resources.

a. Federal Regulations

National Register of Historic Places

The National Register of Historic Places (NRHP) was established by the National Historic Preservation Act of 1966 as “an authoritative guide to be used by Federal, state, and local governments, private groups and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for protection from destruction or impairment” (36 Code of Federal Regulations 60.2). The NRHP recognizes properties that are significant at the national, state, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. A property is eligible for the NRHP if it meets any one of the following criteria:

Criterion A: Are associated with events that have made a significant contribution to the broad patterns of our history

Criterion B: Are associated with the lives of persons significant in our past

Criterion C: Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

Criterion D: Have yielded, or may be likely to yield, information important in prehistory or history

In addition to meeting at least one of the above designation criteria, resources must also retain integrity. The National Park Service recognizes seven aspects or qualities that, considered together, define historic integrity. To retain integrity, a property must possess several, if not all, of these seven qualities, defined in the following manner:

Location: The place where the historic property was constructed or the place where the historic event occurred

Design: The combination of elements that create the form, plan, space, structure, and style of a property

Setting: The physical environment of a historic property

Materials: The physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property

Workmanship: The physical evidence of the crafts of a particular culture or people during any given period in history or prehistory

Feeling: A property's expression of the aesthetic or historic sense of a particular period of time

Association: The direct link between an important historic event or person and a historic property

b. State Regulations

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that a lead agency determine whether a project could have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1), unique archaeological resources (PRC Section 21083.2 [g]), and tribal cultural resources (PRC Section 21074 [a][1][A]-[B]). A historical resource is a resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) (Section 21084.1), a resource included in a local register of historical resources (Section 15064.5[a][2]), or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (Section 15064.5[a][3]).

PRC Section 5024.1 requires an evaluation of historical resources to determine their eligibility for listing in the CRHR. The purpose of the register is to maintain listings of the State's historical resources and to indicate which properties are to be protected from substantial adverse change. The criteria for listing resources in the CRHR were expressly developed to be in accordance with previously established criteria developed for listing in the NRHP, as enumerated according to CEQA and quoted below.

15064.5(a)(3) […] Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (PRC, § 5024.1, Title 14 California Code of Regulations, Section 4852) including the following:

(1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage

(2) Is associated with the lives of persons important in our past

(3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values

(4) Has yielded, or may be likely to yield, information important in prehistory or history

15064.5(a)(4) The fact that a resource is not listed in or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the PRC), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC sections 5020.1(j) or 5024.1.

15064.5(b) A project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment.

In addition, if a project can be demonstrated to cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC, Section 21083.2[a], [b], and [c]).

PRC Section 21083.2(g) defines a unique archaeological resource as an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it does one or more of the following:

a. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information

b. Has a special and particular quality such as being the oldest of its type or the best available example of its type

c. Is directly associated with a scientifically recognized important prehistoric or historic event or person

Impacts to significant cultural resources that affect the characteristics of any resource that qualify it for the NRHP or adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. These impacts could result from physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired (State CEQA Guidelines Section 15064.5 [b][1]). Material impairment is defined as demolition or alteration in an adverse manner [of] those characteristics of an historical resource that convey its historical significance and that justify its inclusion or eligibility for inclusion in the CRHR (State CEQA Guidelines Section 15064.5[b][2][A]).

Codes Governing Human Remains

The disposition of human remains is governed by Health and Safety Code Section 7050.5 and PRC Sections 5097.94 and 5097.98 and falls within the jurisdiction of the NAHC. If human remains are discovered, the County Coroner must be notified within 48 hours and there should be no further disturbance to the site where the remains were found. If the remains are determined by the coroner to be Native American, the coroner is responsible for contacting the NAHC within 24 hours. The NAHC, pursuant to PRC Section 5097.98, will immediately notify those persons it believes to be most likely descended from the deceased Native Americans so they can inspect the burial site and make recommendations for treatment or disposal.

Assembly Bill 52

As of July 1, 2015, California Assembly Bill 52 of 2014 (AB 52) was enacted and expands CEQA by defining a new resource category, “tribal cultural resources.” Assembly Bill 52 establishes that “[a] project with an effect that may cause a substantial adverse change in the significance of a Tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a Tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 20184.3 (b)(2) provides examples of mitigation measures that lead agencies may consider to avoid or minimize impacts to Tribal cultural resources.

PRC Section 21074 (a)(1)(A) and (B) defines Tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and meets either of the following criteria:

a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC section 5020.1(k)
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

AB 52 also establishes a formal consultation process for California Native American Tribe regarding those resources. The formal consultation process must be completed before a CEQA document can be released if a California Native American Tribe traditionally and culturally affiliated with the geographic area of the proposed project requests consultation from the lead agency (PRC Section 21080.3.1). California Native American Tribes to be included in the process are those that have requested notice of any proposed projects within the jurisdiction of the lead agency.

Senate Bill 18

Enacted on March 1, 2005, Senate Bill 18 (SB18) (California Government Code Section 65352.3 and 65352.4) requires cities and counties to notify and consult with California Native American Tribal groups and individuals regarding proposed local land use planning decisions for the purpose of protecting traditional Tribal cultural places (sacred sites), prior to adopting or amending a general plan or designating land as open space. Tribal groups or individuals have 90 days to request consultation following the initial contact.

Senate Bill 35 and Assembly Bill 168

Enacted on September 29, 2017, Senate Bill 35 (SB 35) (California Government Code Section 65913.41) grants a ministerial approval process that expedites and facilitates construction of affordable housing projects without normal CEQA documentation. However, in May 2021, Assembly Bill 168 (AB 168), an act to amend Sections 65400, 65913.4, and 65941.1 of SB 35, was passed. AB 168 requires a pre-consultation process with Native American Tribes to identify and protect Tribal cultural resources prior to the submission of an SB 35 permit for a housing development.

c. Local Regulations

City of Burbank Historic Resource Management Ordinance

Division 6. Historic Preservation Regulations of Article 9. (Miscellaneous Uses and Standards) the Burbank Municipal Code's zoning regulations, referred to as the "Historic Resource Management Ordinance", provides criteria and procedures to designate, alter or remove historical resources within the City of Burbank. The intent of the Historic Resource Management Ordinance is "to recognize, preserve, and protect historic resources in the interest of the health, prosperity, social and cultural enrichment, and general welfare of the people" (City of Burbank 2018). The purpose of this Ordinance is to:

A. Safeguard the heritage of the City by preserving resources that reflect elements of the City's history;

B. Encourage public understanding and involvement in the historic, cultural, architectural, archaeological, and social heritage of the City;

C. Promote the private and public use and preservation of historic resources for the education, appreciation and general welfare of the people;

D. Promote the conservation, preservation and enhancement of historic resources;

E. Promote the conservation of energy and natural resources through the preservation and maintenance of historic resources;

F. Discourage the demolition, destruction, alteration, misuse or neglect of designated historic resources which represent an important link to Burbank's past;

G. Provide economic benefits to owners of qualifying historic resources to ensure their continued maintenance and preservation; and

H. To make all information about historic resources and historic preservation accessible and available to the public. [Added by Ord. No. 3381, eff. 10/15/94; Amended by Ord. No. 3812, eff. 6/24/11.]

Burbank2035 General Plan

The Burbank2035 General Plan (adopted February 2013) is the primary mechanism for guiding future change in Burbank and provides a guide for land use decision-making. The Land Use Element and Open Space and Conservation Element include goals and policies that aim to preserve cultural resources and protect natural resources.

Land Use Element

The Burbank2035 General Plan's Land Use Element serves as a guide for future development and land use decisions. Land use goals and policies seek to maintain a balance between small-town character, economic prosperity, and sustainability. The goal and policies applicable to cultural resources are presented below.

Goal 3: Community Design and Character

Burbank's well-designed neighborhoods and buildings and enhanced streets and public spaces contribute to a strong sense of place and "small town" feeling reflective of the past.

Policy 3.10: Preserve historic resources, buildings, and sites, including those owned by private parties and government agencies, including the City of Burbank. Alter such resources only as necessary to meet contemporary needs and in a manner that does not affect the historic integrity of the resource.

Policy 3.11: Carefully consider the evolution of community character over time. Evaluate projects with regard to their impact on historic character, their role in shaping the desired future community character, and how future generations will view today's Burbank**.**

Open Space and Conservation Element

The Burbank2035 General Plan's Open Space and Conservation Element addresses the conservation and enhancement of open space, parks, recreation, and natural resources within the City. The goals and policies of the Open Space and Conservation Element are intended to protect natural resources including historical, archeological, and paleontological resources (City of Burbank 2013). The goal and policy applicable to cultural resources are presented below.

Goal 6: Open Space Resources

Burbank's open space areas and mountain ranges are protected spaces supporting important habitat, recreation, and resource conservation.

Policy 6.1: Recognize and maintain cultural, historical, archeological, and paleontological structures and sites essential for community life and identity.

Plan Realization

The Plan Realization portion of the Burbank2035 General Plan establishes implementation programs to translate into action the goals and polices set forth in Burbank2035 (City of Burbank 2013). The program applicable to the proposed Project, with respect to cultural resources, is presented below.

Program LU-4: Historic Preservation Plan

To reduce impacts to both known and as-yet-unidentified historical resources within Burbank, the City shall:

Require evaluation by a qualified architectural historian for projects subject to CEQA involving buildings constructed more than 45 years prior to the project application. If the evaluation determines that historical resources (as defined in State CEQA Guidelines Section 15064.5) would be adversely affected, the City shall require the proposed project to comply with Section 10-1-928 of the Historic Resource Management Ordinance and obtain a Permit to Alter a Designated Historic Resource.

Require assessment by a qualified archeologist for projects subject to CEQA involving ground disturbing activities on previously undisturbed land to identify the potential to encounter buried historical resources (as defined in State CEQA Guidelines Section 15064.5). If the assessment determines that buried resources may be present, the City shall require preparation and implementation of a treatment plan outlining measures for monitoring, data recovery, and/or handling inadvertent discoveries.

4.3.3 Impact Analysis

This section identifies potential baseline conditions for cultural resources, possible impacts that could occur as a result of project implementation, and feasible mitigation measures to avoid or reduce the significance of possible significant impacts.

a. Thresholds of Significance

The Initial Study prepared for the Project (Appendix B) determined that a potentially significant impact might occur under the following thresholds and therefore will be analyzed in this section of the EIR. Thresholds of significance are based on the questions in Appendix G of the CEQA Guidelines:

Cultural Resources

1. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5
2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5
3. Disturb any human remains, including those interred outside of formal cemeteries

Tribal Cultural Resources

4. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)
5. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Cod Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American Tribe.

b. Project Impacts

Threshold 1: Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Impact CUL-1 DEVELOPMENT ACCOMMODATED BY THE HOUSING ELEMENT UPDATE COULD ADVERSELY AFFECT KNOWN AND PREVIOUSLY UNIDENTIFIED HISTORIC-PERIOD RESOURCES. IMPACTS TO HISTORIC-PERIOD RESOURCES WOULD BE LESS THAN SIGNIFICANT AFTER MITIGATION.

As outlined in the City of Burbank Historic Preservation Plan (1999) and Citywide Historic Context Report (2009), the City contains numerous historic-period resources. Historic-period resources include all buildings, structures, and/or artifacts that are older than 45 years old at the commence of projects (i.e., 1976 as of 2021). While none of the proposed Project sites were identified as known historic resources in the City's Historic Preservation Plan (1999) or Context Report (2009), a review of the developmental history and property status of the proposed rezone properties identified 68 parcels in the Housing Element Update inventory properties that possesses potential historic-period buildings and/or structures (Tables 4.3-1 and 4.3-2). The Downtown TOD Specific Plan (TOD) inventory possesses 36 parcels with known historic-period buildings, and the Golden

State Specific Plan (GSSP) inventory contains 32. Excluding TOD-5, -6, and -10 and GSSP-5 and -6, all of the Housing Element Update Project sites contain buildings older than 45 years.

The Burbank2035 General Plan Historic Resource Management Ordinance, Program LU-4: Historic Preservation Plan provides specific measures to ensure that any historic-period resources identified during the Housing Element Update Project would be properly evaluated by a qualified architectural historian or archaeologist prior to development. The Program LU-4 measures specific to Impact CUL-1 include:

> Require evaluation by a qualified architectural historian for projects subject to CEQA involving buildings constructed more than 45 years prior to the project application. If the evaluation determines that historical resources (as defined in State CEQA Guidelines Section 15064.5) would be adversely affected, the City shall require the proposed project to comply with Section 10-1-928 of the Historic Resource Management Ordinance and obtain a Permit to Alter a Designated Historic Resource.

Table 4.3-1 and Table 4.3-2 identify all Housing Element Update properties that possess buildings and/or structures greater than 45 years old that are subject to the policies outlined in Program LU-4 and will require assessment by a qualified architectural historian prior to development. If a Housing Element Update property is determined to be eligible for the CRHR, the qualified architectural historian will develop a mitigation plan in conjunction with the City to reduce any potential impacts to the resource to a less than significant level. If development under the Housing Element Update requires the demolition or alteration of a historic-period resource, a Permit to Alter a Designated Historic Resource (Historic Resource Management Ordinance Section 10-1-928) must be obtained before development occurs.

Table 4.3-1 Golden State Specific Plan Properties with Buildings over 45 years of age.

OP Site ID	APN	Year Built
GSSP-1 Lima/Avon	2466001015	1974
GSSP-1 Lima/Avon	2466001016	1965
GSSP-1 Lima/Avon	2466001022	1947
GSSP-1 Lima/Avon	2466001023	1947
GSSP-1 Lima/Avon	2466001024	1967
GSSP-1 Lima/Avon	2466001025	1951
GSSP-1 Lima/Avon	2466001026	1946
GSSP-2 N. Hollywood Way	2466005003	1955
GSSP-2 N. Hollywood Way	2466005013	1972
GSSP-2 N. Hollywood Way	2466005024	1954
GSSP-2 N. Hollywood Way	2466006002	1951
GSSP-2 N. Hollywood Way	2466006003	1951
GSSP-2 N. Hollywood Way	2466006004	1951
GSSP-2 N. Hollywood Way	2466006005	1951
GSSP-2 N. Hollywood Way	2466006006	1951

OP Site ID	APN	Year Built
GSSP-2 N. Hollywood Way	2466006007	1951
GSSP-2 N. Hollywood Way	2466006008	1952
GSSP-2 N. Hollywood Way	2466006009	1968
GSSP-2 N. Hollywood Way	2466006010	1968
GSSP-2 N. Hollywood Way	2466006011	1955
GSSP-3 Valhalla	2463001005	1952
GSSP-3 Valhalla	2463001006	1956
GSSP-3 Valhalla	2463001007	1956
GSSP-3 Valhalla	2463001008	1956
GSSP-3 Valhalla	2463001011	1973
GSSP-3 Valhalla	2463001012	1973
GSSP-4 Logix	2463010001	1964
GSSP-7 Empire	2464001002	1965
GSSP-7 Empire	2464001003	1964
GSSP-7 Empire	2464001007	1967
GSSP-7 Empire	2464001017	1952
GSSP-7 Empire	2464001020	1960

Table 4.3-2 Downtown TOD Specific Plan Inventory with Buildings over 45 years of age

OP Site ID	APN	Year Built
TOD 1-Carl’s Jr	2460010014	1964
TOD 1-Carl’s Jr	2460010033	1966
TOD 2-Kmart	2460006045	1962
TOD 2-Kmart	2460007036	1962
TOD 3-Caltrans/IHOP	2460021018	1963
TOD 3-Caltrans/IHOP	2460021019	1967
TOD 3-Caltrans/IHOP	2460021020	1961
TOD 3-Caltrans/IHOP	2460021027	1972
TOD 3-Caltrans/IHOP	2460021028	1929
TOD 4-Old IKEA	2460031029	1963
TOD 7-Civic Center	2453008908	1962
TOD 7-Civic Center (City Hall)	2453009902	1952
TOD 7-Civic Center	2455021906	1964
TOD 8-Olive/Glenoaks	2453014002	1952

OP Site ID	APN	Year Built
TOD 8-Olive/Glenoaks	2453014003	1911
TOD 8-Olive/Glenoaks	2453014008	1953
TOD 8-Olive/Glenoaks	2453014012	1937
TOD 8-Olive/Glenoaks	2453014014	1927
TOD 8-Olive/Glenoaks	2453014022	1920
TOD 8-Olive/Glenoaks	2453014023	1941
TOD 8-Olive/Glenoaks	2453014024	1955
TOD 9-Fosters Freeze/Salvation Army	2453021026	1956
TOD 9-Fosters Freeze/Salvation Army	2453021027	1962
TOD 9-Fosters Freeze/Salvation Army	2453021029	1947
TOD 9-Fosters Freeze/Salvation Army	2453021030	1949
TOD 9-Fosters Freeze/Salvation Army	2453021032	1974
TOD 9-Fosters Freeze/Salvation Army	2453021033	1957
TOD 9-Fosters Freeze/Salvation Army	2453021035	1955
TOD 9-Fosters Freeze/Salvation Army	2453021041	1961
TOD 11-Victory/Olive	2451016012	1971
TOD 11-Victory/Olive	2451016013	1965
TOD 11-Victory/Olive	2451016014	1952
TOD 12-YMCA	2460035003	1961
TOD 12-YMCA	2460035005	1956
TOD 12-YMCA	2460035007	1957
TOD 12-YMCA	2460035018	1923

All projects that would be permitted under the proposed update to the Housing Element and the associated zone changes would be subject to additional CEQA review during the Development Review and/or any other applicable permitting process. Therefore, adherence to the requirements of LU-4 would ensure that all properties are surveyed to determine if they are eligible for listing as a historic resource. However, impacts could still arise if a Permit to Alter a Historic Resource was issued allowing for the alteration or demolition of an eligible resource. Therefore, Mitigation Measure CUL-1 is also required.

Mitigation Measure

CUL-1 Historic Resource Protection

The project proponent shall either:

a) Demonstrate to the satisfaction of the City of Burbank Community Development Department that the project does not contain any historic resources either due to the site being vacant, age of the structures on the site, or due to the result of the Program LU-4 Historic Preservation Plan determination; or

b) For any structure determined to be eligible for listing on a federal, State, or local registry, or currently listed, as a historic resource (typically determined as a result of the Program LU-4 Historic Preservation Plan process), project activities shall comply with the *Secretary of the Interior's Standards for the Treatment of Historic Properties* (Standards). During the project planning phase (prior to any construction activities), input shall be sought from a qualified architectural historian or historic architect meeting the *Secretary of the Interior's Professional Qualifications Standards* to ensure project compliance with the Standards for Rehabilitation. The cost of this assessment shall be borne entirely by the project applicant. This input will ensure the avoidance of any direct/indirect physical changes to historical resources. The findings and recommendations of the architectural historian or historic architect shall be documented in a Standards Project Review Memorandum at the schematic design phase. This memorandum shall analyze all project components for compliance with the Standards for Rehabilitation. Project components to be analyzed shall include direct and indirect changes to historical resources and their setting. Should design modifications be necessary to bring projects into compliance with the Standards for Rehabilitation, the memorandum will document those recommendations, which will then become conditions of project approval. The report will be submitted to the City for review and approval.

Significance After Mitigation

Potential impacts to historic resources would be less than significant with implementation of Mitigation Measure CUL-1.

Threshold 2:	Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Impact CUL-2 DEVELOPMENT ACCOMMODATED BY THE HOUSING ELEMENT UPDATE COULD ADVERSELY AFFECT IDENTIFIED AND PREVIOUSLY UNIDENTIFIED PREHISTORIC CULTURAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH THE IMPLEMENTATION OF MITIGATION, AS WELLS AS THE POLICIES OUTLINED IN THE HISTORIC RESOURCE MANAGEMENT ORDINANCE, PROGRAM LU-4: HISTORIC PRESERVATION PLAN.

Although the City has not listed identified archaeological sites in the city, it is known that prehistoric populations were present in Burbank and the surrounding areas. Therefore, the potential to encounter unidentified resources in the City and on residential opportunity sites noted in the Housing Element Update properties is considered moderate. Undeveloped properties in the Housing Element Update inventory have a higher probability of containing previously unidentified archaeological resources given the probable lack of previous ground-disturbing activities on those properties. Additionally, ground-disturbance into undisturbed soils on any Housing Element Update property could contain previously unknown prehistoric or historic-period resources. The Historic Resource Management Ordinance, Program LU-4: Historic Preservation Plan also provides specific policies related to the unanticipated discovery of archaeological resources. The Program LU-4 measures specific to Impact CUL-2 include:

> Require assessment by a qualified archeologist for projects subject to CEQA involving ground disturbing activities on previously undisturbed land to identify the potential to encounter buried historical resources (as defined in State CEQA Guidelines Section 15064.5). If the assessment

determines that buried resources may be present, the City shall require preparation and implementation of a treatment plan outlining measures for monitoring, data recovery, and/or handling inadvertent discoveries.

As described in Program LU-4, all development projects under the Housing Element Update that require ground-disturbing activities on previously undisturbed lands must be assessed by a qualified archaeologist before construction commences. In addition, Mitigation Measure CUL-2(a) and CUL-2(b) are required for projects that include excavation beyond five feet.

Mitigation Measures

Housing development projects that require ground disturbance (grading, trenching, foundation work, and other excavations) beyond five feet below ground surface (bgs) where it was not previously excavated beyond five feet bgs, shall comply with the City of Burbank Historic Resource Management Ordinance, Program LU-4: Historic Preservation Plan, and General Plan Policies. In addition, the following requirements shall apply:

CUL-2(a) Unanticipated Discovery of Archaeological Resources

Prior to the commencement of any ground-disturbing activities, a qualified archaeologist shall be retained to conduct a Worker's Environmental Awareness Program (WEAP) training on archaeological sensitivity for all construction personnel. The training shall be conducted by an archaeologist who meets or exceeds the Secretary of Interior's Professional Qualification Standards for archaeology. Archaeological sensitivity training will include a description of the types of cultural material that may be encountered, cultural sensitivity issues, regulatory issues, and the proper protocol for treatment of the materials in the event of a find.

In the event of the unanticipated discovery of archaeological materials, the project applicant shall immediately cease all work activities in the area (within approximately 100 feet) of the discovery until it can be evaluated by a qualified archaeologist. Construction shall not resume until the qualified archaeologist has conferred with the City on the significance of the resource. If it is determined that the discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, avoidance and preservation in place shall be the preferred manner of mitigation. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Treatment Plan shall be prepared and implemented by the qualified archaeologist in consultation with the City that provides for the adequate recovery of the scientifically consequential information contained in the archaeological resource. The City shall consult with appropriate Native American representatives in determining treatment for prehistoric or Native American resources to ensure cultural values ascribed to the resource, beyond that which is scientifically important, are considered.

CUL-2(b) Archaeological and Native Monitors

During initial ground disturbing activities related to the proposed project, both a qualified archaeologist and a locally affiliated Native American monitor shall monitor construction activities within the project site in accordance with City of Burbank Historic Resource Management Ordinance, Program LU-4: Historic Preservation Plan. Initial ground disturbance is defined as disturbance within previously undisturbed native soils. If, during initial ground disturbance, the qualified archaeologist determines that the construction activities have little or no potential to impact cultural resources (e.g., excavations are within previously disturbed, non-native soils, or within soil formation not expected to yield cultural resources deposits), the qualified archaeologist may recommend that monitoring be reduced or eliminated, in consultation with the Native American monitor.

Significance After Mitigation

Mitigation Measures CUL-2(a) and CUL-2(b) would reduce impacts to prehistoric resources to a less than significant level.

Threshold 3: Would the Project disturb any human remains, including those interred outside of formal cemeteries?

Impact CUL-3 **GROUND-DISTURBING ACTIVITIES ASSOCIATED WITH DEVELOPMENT UNDER THE HOUSING ELEMENT UPDATE COULD RESULT IN DAMAGE TO OR DESTRUCTION OF HUMAN BURIALS. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH THE IMPLEMENTATION OF MITIGATION, AS WELL AS THE POLICIES OUTLINED IN THE HISTORIC RESOURCE MANAGEMENT ORDINANCE, PROGRAM LU-4: HISTORIC PRESERVATION PLAN.**

Human burials outside of formal cemeteries can occur in prehistoric archaeological contexts. While no known burial sites have been identified in the city, excavations during construction activities could have the potential to disturb these resources, which could include Native American burial sites. Although it is unlikely that human remains are present, all Housing Element Update properties have at least the possibility of containing previously unidentified human remains.

Human burials, in addition to being potential archaeological resources, have specific provisions for treatment in Section 5097 of the California PRC. The California Health and Safety Code (Section7050.5, 7051, and 7054) has specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains, and protect them from disturbance, vandalism, or destruction. They also include established procedures to be implemented if Native American skeletal remains are discovered. PRC Section 5097.98 also addresses the disposition of Native American burials, protects such remains, and established the NAHC to resolve any related disputes.

The policies outlined in Program LU-4 (see Impact CUL-2) ensures that a plan will be in place to properly mitigate any potential unanticipated discovery of human remains on a Housing Element Update property. Additionally, all development projects are subject to State of California Health and Safety Code Section 7050.5 that states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. The County coroner must be notified of the find immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Mitigation Measures

Mitigation Measures CUL-2(a) and CUL-2(b) would address potential impacts to human remains.

Significance After Mitigation

Mitigation Measures CUL-2(a) and CUL-2(b) would reduce impacts to human remains to a less than significant level.

Threshold 4: Would the Project cause a substantial adverse change in the significance of a Tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

Threshold 5: Would the Project cause a substantial adverse change in the significance of a Tribal cultural resource as defined in Public Resources Code Section 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

Impact CUL-4 DEVELOPMENT ACCOMMODATED BY THE HOUSING ELEMENT UPDATE COULD ADVERSELY IMPACT TRIBAL CULTURAL RESOURCES. IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH IMPLEMENTATION OF MITIGATION AND THROUGH CONSULTATION CONDUCTED PURSUANT TO THE REQUIREMENTS OF AB 52.

Ground-disturbing activities associated with individual development projects under the Housing Element Update could expose previously unidentified subsurface archaeological resources that may qualify as Tribal cultural resources and could be adversely affected by the project construction. Given the highly developed nature of most Housing Element Update and rezone properties, the likelihood of encountering intact cultural or Tribal cultural resources is low to moderate.

As part of its Tribal cultural resource identification process under AB 52, the City of Burbank sent letters via certified mail to nine Native American Tribes that had previously requested to be informed through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the Tribes. The City has yet not received any requests for consultation. The City of Burbank also requested a review of the Sacred Land File (SLF) by the NAHC and received a response on April 6, 2021 that the search of the SLF was positive. The NAHC requested that the City contact the Fernandeno Tataviam Band of Mission Indians to determine if any specific Tribal cultural resources that would be impacted by the proposed Housing Element Update. To date, the City has not received any responses for additional consultation under AB 52 or SB 18.

The proposed Project is part of a high-level planning document. It remains a possibility that Tribal cultural resources may be present within geographic areas affiliated with Tribal organizations. Adherence to the requirements of AB 52 would require Tribal consultation with local California Native American Tribes prior to implementation of any project activities which are subject to CEQA. In compliance with AB 52, a determination of whether project-specific substantial adverse effects on Tribal cultural resources would occur along with identification of appropriate project-specific avoidance, minimization, or mitigation measures would be required. Due to the programmatic nature of the proposed program, it is not possible to fully determine impacts, however, no Tribal cultural resources were identified during consultation and no resources eligible for the California Register of Historical Resources or local register were identified as being impacted by the proposed program. Any future project implementation would require project-specific Tribal cultural resource identification and consultation, and the appropriate avoidance, minimization, or mitigation would be incorporated.

AB 52 consultation, thus far, did not identify Tribal cultural resources in the Project area as part of this analysis. Project-specific Tribal cultural resource consultation will occur when specific projects are implemented, and consultation conducted pursuant to the requirements of AB 52. In addition, Mitigation Measures CUL-2(a) and CUL-2(b) would apply on all undeveloped properties and properties that require ground-disturbance beyond five feet bgs where it was not previously excavated beyond five feet bgs.

Mitigation Measures

Mitigation Measures CUL-2(a) and CUL-2(b) would address potential impacts to Tribal cultural resources.

Significance After Mitigation

Mitigation Measures CUL-2(a) and CUL-2(b) would reduce impacts to Tribal cultural resources to a less than significant level.

4.3.4 Cumulative Impacts

Cumulative development under the Burbank2035 Housing Element Update could potentially disturb areas that may contain cultural and Tribal cultural resources. While there is the potential for significant cumulative impacts to cultural and Tribal cultural resources, it is anticipated that potential impacts associated with individual development projects would be addressed on a case-by-case basis and would be subject to City policies and local and State regulations regarding the protection of such resources. With compliance with existing policies and regulations, future development in the City and region would be required to avoid or mitigate the loss of these resources. The proposed Project’s impacts can be reduced to below a level of significance with the standard conditions of approval (including City policies and local and State regulations) described above. Therefore, significant cumulative resource impacts would not occur.

4.4 Geology/Soils

This section evaluates potential impacts related to paleontological resources.

The Initial Study found no potentially significant impacts related earthquake faults (Threshold 2), strong seismic ground shaking (Threshold 3), liquefaction (Threshold 4), landslides (Threshold 5), substantial soil erosion (Threshold 6), unstable geologic units (Threshold 7), expansive soils (Threshold 8), or soils supporting the use of septic tanks or alternative wastewater disposal systems (Threshold 9); therefore, these issues are not studied further herein.

4.4.1 Environmental Setting

a. Paleontological Resources

Paleontological resources, or fossils, are the evidence of once-living organisms preserved in the rock record. They include both the fossilized remains of ancient plants and animals and the traces thereof (e.g., trackways, imprints, burrows, etc.). Paleontological resources are not found in "soil" but are contained within the geologic deposits or bedrock that underlies the soil layer. Typically, fossils are greater than 5,000 years old (i.e., older than middle Holocene in age) and are typically preserved in sedimentary rocks. Although rare, fossils can also be preserved in volcanic rocks and low-grade metamorphic rocks under certain conditions (Society of Vertebrate Paleontology [SVP] 2010). Fossils occur in a non-continuous and often unpredictable distribution within some sedimentary units, and the potential for fossils to occur within sedimentary units depends on a number of factors. It is possible to evaluate the potential for geologic units to contain scientifically important paleontological resources, and therefore evaluate the potential for impacts to those resources and provide mitigation for paleontological resources if they are discovered during construction of a development project.

b. Geologic Setting

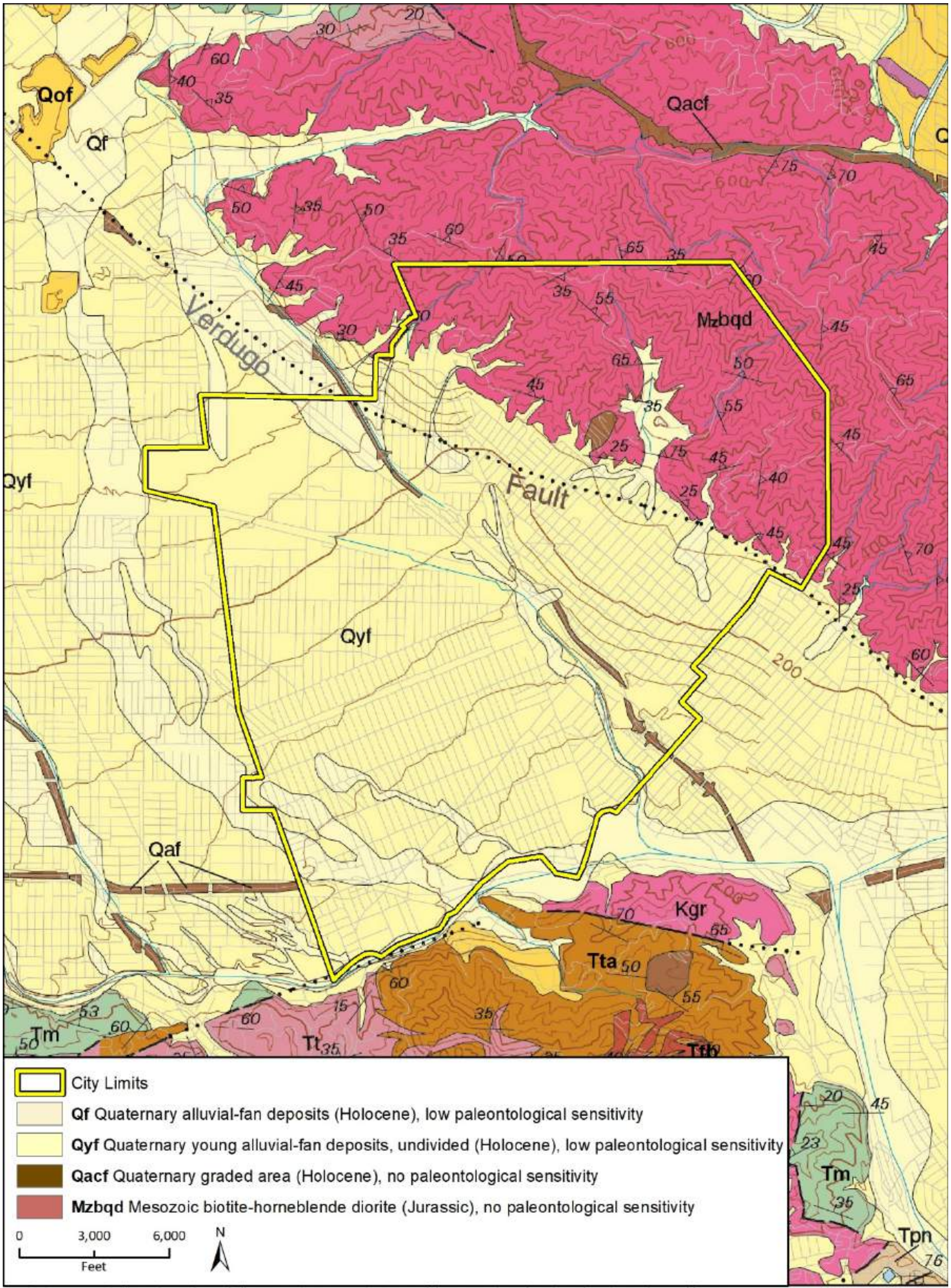
Burbank is in the eastern portion of the San Fernando Valley situated along the southwestern edge of the Verdugo Mountains within the east-west trending Transverse Ranges geomorphic province (California Geological Survey 2002; Yerkes and Campbell 2005). The San Fernando Valley is approximately 23 miles wide and 12 miles long and is underlain by a structural depression that contains a thick accumulation of more than 20,000 feet of Cenozoic alluvial, shallow marine, and deep shelf sedimentary deposits (McCulloh and Beyer 2004). The alluvium in the San Fernando Valley is mainly derived from the Santa Monica Mountains to the south, the Santa Susana Mountains to the north, the Simi Hills to the west, the San Gabriel Mountains to the northeast, and the Verdugo Mountains to the east.

The City includes four geologic units mapped at ground surface, including Quaternary young (late to middle Holocene) alluvial fan deposits (Qyf, Qf), Quaternary young (late Holocene) graded deposits (Qacf), and Mesozoic intrusive igneous rocks (Mzbqd) (Yerkes and Campbell 2005). Quaternary young (late to middle Holocene) alluvial fan deposits (Qyf, Qf), mapped throughout most of the City, consist of unconsolidated gravel, sand, and silt, bouldery near mountain fronts; deposited chiefly from flooding streams and debris flows. In addition, surfaces of these deposits can display slight to moderate pedogenic soil development. Late to middle Holocene alluvial deposits are too young (i.e., less than 5,000 years old) to preserve fossil resources, but these sediments may grade downward into older, fossiliferous sedimentary deposits of early Holocene or late Pleistocene age.

Quaternary old (early Holocene to Pleistocene) alluvial deposits (e.g., Qoa); consisting of unconsolidated to moderately indurated gravel, sand and silt; have a well-documented record of abundant and diverse vertebrate fauna throughout California, including Los Angeles County. Fossil specimens of whale, sea lion, horse, ground sloth, bison, camel, mammoth, dog, pocket gopher, turtle, ray, bony fish, shark, and bird have been reported (Agenbroad 2003; Jefferson 2010; Paleobiology Database 2020; Savage et al. 1954; University of California Museum of Paleontology [UCMP] 2021).

Quaternary young (late Holocene) graded deposits (Qacf), mapped in the central portions of the City, consist of undifferentiated cuts and artificial fill associated with prior development. Mesozoic intrusive igneous rocks (Mzbqd), mapped within the northern portion of the City, consist of medium-grained biotite-quartz diorite that is slightly gneissic and formed either from the cooling of molten rock deep below the surface under high heat and high pressure, or from cooling magma injected into older rocks (Yerkes and Campbell 2005). The high-heat and high-pressure conditions in which these rocks formed are not suitable for life or fossilization. Refer to Figure 4.4-1 for the geologic units and paleontological sensitivity within the City limits.

Figure 4.4-1 Geologic Units and Paleontological Sensitivity Within the City of Burbank



Geologic map provided by Yerkes and Campbell, 2005, Preliminary Geologic Map of the Los Angeles 30' x 60' Quadrangle, Southern California.

4.4.2 Regulatory Setting

a. State

California Environmental Quality Act

Paleontological resources are protected under CEQA, which states in part a project will "normally" have a significant effect on the environment if it, among other things, will disrupt or adversely affect a paleontological site except as part of a scientific study. Specifically, in Section VII(f) of Appendix G of the State CEQA Guidelines, the Environmental Checklist Form, the question is posed thus: "Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature." To determine the uniqueness of a given paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, CEQA mandates mitigation of adverse impacts, to the extent practicable, to paleontological resources.

CEQA does not define "a unique paleontological resource or site." However, the Society of Vertebrate Paleontology (SVP) has defined a "significant paleontological resource" in the context of environmental review as follows:

Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are typically to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for ensuring that impacts to paleontological resources are mitigated, where practicable, in compliance with CEQA and other applicable statutes.

California Public Resources Code

Section 5097.5 of the Public Resources Code states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here "public lands" means those owned by, or under the jurisdiction of, the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

b. Local

Burbank2035 General Plan

Chapter 6, *Open Space Resources* and Chapter 7, *Safety Element*, of the Burbank2035 General Plan contain the following geology, soils, and paleontology policies applicable to the project:

- **Policy 6.1**: Recognize and maintain cultural, historical, archeological, and paleontological structures and sites essential for community life and identity.

Chapter 8, *Plan Realization* of the Burbank2035 General Plan includes an implementation program to put General Plan goal and policies into action. The following is included under *Program OSC-7: Development Review* to help minimize the potential impacts of project implementation on paleontological resources:

> If paleontological resources are discovered during earthmoving activities associated with future development projects, the construction crew shall immediately cease work in the vicinity of the find and notify the City. The project applicant(s) shall retain a qualified paleontologist to evaluate the resource and prepare a recovery plan in accordance with Society of Vertebrate Paleontology guidelines (1996). The recovery plan shall include, but is not limited to, a field survey, construction monitoring, sampling and data recovery procedures, museum storage coordination for any specimen recovered, and a report of findings. Recommendations in the recovery plan that are determined by the lead agency to be necessary and feasible shall be implemented before construction activities can resume at the site where the paleontological resources were discovered. (Page 161)

Burbank Municipal Code

BMC Title 7, Article 1, Section 105(c) and (d), define the requirements of the Engineering Geological Report and Soil Engineering Report required with a project's grading plans. The Engineering Geological Report shall be prepared and signed by an engineering geologist and shall include a description of the geology of the site, conclusions, and recommendations regarding the effect of geological conditions on the proposed development, and a geologic map of sufficient detail as to portray the existing field condition. The Soils Engineering Report must be prepared by a soil engineer and shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures, design criteria for corrective measures, or other criteria as may be necessary. Conclusions from these reports are to be incorporated into the grading plans or specifications for the project.

4.4.3 Impact Analysis

a. Thresholds of Significance

Thresholds of significance are based on the questions in Appendix G of the CEQA Guidelines. The Initial Study prepared for the Project (Appendix B) determined that a potentially significant impact might occur under the following threshold and therefore will be analyzed in this section of the EIR.

1. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature
2. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-

Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault

3. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking
4. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction
5. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides
6. Result in substantial soil erosion or the loss of topsoil
7. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse
8. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property
9. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater

The Initial Study (Appendix B) determined that the Project could result in potentially significant impacts related to unique paleontological resources or geologic features (Threshold 1). As such, an analysis of this issue is included in this section of the EIR.

The Initial Study (IS) found no potentially significant impacts related earthquake faults (Threshold 2) because project development would not directly or indirectly cause or exacerbate potential substantial adverse effects involving the rupture of a known earthquake fault. Similarly, the IS found no potentially significant impacts related to strong seismic ground shaking (Threshold 3) or liquefaction (Threshold 4), because compliance with applicable building standards and the California Building Code (CBC) would minimize the potential for property damage and loss of life and reasonably foreseeable development under the Housing Element Update would not increase the frequency or severity of ground shaking or liquefaction. The IS also found no potentially significant impacts related to landslides (Threshold 5), due to the majority of the City's area having a flat topography, and housing sites identified in the Housing Element Update are not located along the foothills. Regarding substantial soil erosion (Threshold 6), the IS found that no potentially significant impacts would occur because compliance with the National Pollutant Discharge Elimination System (NPDES) and development of a Stormwater Pollution Prevention Plan (SWPPP) and BMPs would reduce the risk of soil erosion from construction activities such that there would be minimal change in risk compared to current conditions. The IS found no potentially significant impacts related to unstable geologic units (Threshold 7) or expansive soils (Threshold 8), because adherence to the CBC's soil requirements would achieve accepted safety standards relative to unstable geologic units, or unstable or expansive soils. The IS found no impacts related to soils supporting the use of septic tanks or alternative wastewater disposal systems (Threshold 9) because the use of septic systems is not anticipated as part of future development. Therefore, these issues are not studied further herein.

b. Methodology

Because the Housing and Safety Element Updates pertain to the entire City and this Program EIR is aimed at identifying the broad, citywide impacts of implementing the proposed updates, methods for research consisted of a desktop analysis and definition of the existing conditions that characterize the general geologic setting and paleontological sensitivity in the City and surrounding region. These potential impacts and any associated mitigation measures would apply citywide and would be tied directly to projects with physical construction activities.

Paleontological Resources Sensitivity

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Since fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. Such impacts have the potential to be significant and, under the *CEQA Guidelines*, may require mitigation. Sensitivity is determined by rock type, past history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

The Society for Vertebrate Paleontology (SVP) outlines in its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources (SVP 2010) guidelines for categorizing paleontological sensitivity of geologic units in a project area. The SVP (2010) describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically or stratigraphically, taxonomically, or regionally. The paleontological sensitivity of the project site has been evaluated according to the following SVP (2010) categories, which are presented below.

High Potential (Sensitivity)

Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include, but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Full-time monitoring is typically recommended during any project-related ground disturbance in geologic units with high sensitivity.

Low Potential (Sensitivity)

Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic (processes affecting an organism following death, burial, and removal from the ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.

Undetermined Potential (Sensitivity)

Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.

No Potential

Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources. For geologic units with no sensitivity, a paleontological monitor is not required.

c. Project Impacts

Threshold 1:	Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact GEO-1 DEVELOPMENT ACCOMMODATED UNDER THE HOUSING ELEMENT UPDATE COULD ADVERSELY AFFECT PREVIOUSLY UNIDENTIFIED PALEONTOLOGICAL RESOURCES. IMPACTS TO PALEONTOLOGICAL RESOURCES WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED.

The proposed Safety Element Update does not include any language regarding paleontological resources and therefore no impact would occur as a result of the update. The only potential impacts to paleontological resources would occur as a result of new residential and commercial construction that would be accommodated under the Housing Element Update.

Based on a paleontological literature review and existing fossil locality information available on the Paleobiology Database and UCMP database, the paleontological sensitivity of the geologic units underlying the City were determined in accordance with criteria set forth by the SVP (2010).

Mesozoic intrusive igneous rocks (Mzbqd), mapped within the northern portion of the City have no paleontological sensitivity since the physical parameters of their formation are not conducive to fossil preservation. Quaternary young (Holocene) graded deposits (Qacf) and other previously disturbed sediments (e.g., artificial fill) lack taphonomic and other important scientific data and, as such, are also assigned no paleontological sensitivity.

Quaternary young (late to middle Holocene) sedimentary deposits (Qyf, Qf) are too young to preserve fossil resources as defined by SVP standards (2010) (i.e., deposits that are less than 5,000 years old cannot, by definition, contain fossils). Late to middle Holocene sedimentary deposits are assigned a low paleontological sensitivity at the surface; however, these units grade downward into older, potentially fossiliferous deposits of early Holocene to Pleistocene age (e.g., Qoa) at unknown depths, that can only be estimated, based on regional geologic setting in the absence of additional data. Accurately assessing the boundaries between younger and older units within the City is generally requires site-specific stratigraphic data, some form of radiometric dating, or fossil analysis from nearby sites. Conservative estimates of the depth at which paleontologically sensitive units may occur reduces potential for impacts to paleontological resources. The depths at which these units become old enough to yield fossils is highly variable, but generally does not occur at depths of less than five feet throughout most of the San Fernando Valley. Sensitive units could occur at depths shallower than five feet on basin margins and near contact points with high sensitivity units. Early Holocene to Pleistocene sedimentary deposits have a well-documented record of abundant and diverse vertebrate fauna throughout California (Jefferson 2010; Paleobiology Database 2021; UCMP 2021). Therefore, areas mapped as Quaternary young (middle to late Holocene) sedimentary deposits (Qf, Qyf) are assigned a high paleontological sensitivity at depths greater than five feet.

Paleontological resources may be encountered during any ground-disturbing activities associated with construction (e.g., grading, excavation, or other ground disturbing construction activity) in intact (native) geologic units with high paleontological sensitivity. Construction activities may result in the destruction, damage, or loss of undiscovered scientifically important paleontological resources. However, the Housing Element Update would prioritize residential development on infill sites and in areas that have previously been developed and disturbed and are therefore less likely to contain paleontological resources than undisturbed areas that have not previously been excavated or disturbed below the ground surface. In addition, where suitable geologic units are present, paleontological resources are most likely to occur more than five feet below the ground surface. All of the proposed rezone locations have been mapped as Qyf, Qf (low sensitivity increasing with depth), and Qacf (no sensitivity). While development under the Housing Element Update and proposed rezoning would most often occur on previously disturbed sites, paleontological resources could be impacted if the proposed development requires excavation of a greater depth than previously disturbed and when located in areas that have been mapped as Qyf or Qf.

Most foreseeable development under the Housing Element Update and rezoning would be unlikely to involve impacts to paleontological resources, due to the locations in infill areas where previous disturbance has occurred. However, given that most of the proposed housing opportunity sites are mapped within areas of high paleontological sensitivity at depths greater than five feet, substantial adverse change in or a disturbance to known or unknown resources is possible; therefore, impacts to paleontological resources would be potentially significant.

Mitigation Measures

GEO-1(a) Paleontological Resources Management

Housing development projects that require ground disturbance (grading, trenching, foundation work, and other excavations) beyond five feet below ground surface (bgs) on a site located in an area mapped as Quaternary young (Holocene) alluvial fan deposits (Qyf, Qf) where it was not previously excavated beyond five feet bgs, shall comply with the following requirements prior to the commencement of any construction activities:

1. The Developer shall retain a qualified professional paleontologist to review project plans to determine if underlying paleontologically sensitive units (i.e., early Holocene to Pleistocene age deposits [Qoa]) could be impacted. If potentially significant impacts are identified, the qualified professional paleontologist shall prepare and implement a Paleontological Resources Mitigation Plan (PRMP). The PRMP shall describe mitigation recommendations, including paleontological monitoring procedures; communication protocols to be followed in the event that an unanticipated fossil discovery is made during project development; and preparation, curation, and reporting requirements.
2. As part of a PRMP, require the Qualified Paleontologist or his or her designee to conduct Worker Environmental Awareness Program (WEAP) training for the general contractor, subcontractor(s), and all construction workers participating in earth disturbing activities, regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by on-site personnel. The WEAP shall be fulfilled at the time of a preconstruction meeting. A training acknowledgment form must be signed by all workers who receive the training and retained by the City. In the event a fossil is discovered by construction personnel, all work in the immediate vicinity of the find shall cease and the qualified paleontologist shall be contacted to evaluate the find before re-starting work in the area. If it is determined that the fossil(s) is (are) scientifically significant, the qualified paleontologist shall complete the mitigation outlined below (GEO-1[b]) to mitigate impacts to significant fossil resources.
3. Conduct monitoring during ground construction activities (i.e., grading, trenching, foundation work, and other excavations). Monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who meets the minimum qualifications per standards set forth by the SVP (2010), which includes a B.S. or B.A. degree in geology or paleontology with one year of monitoring experience and knowledge of collection and salvage of paleontological resources. The duration and timing of the monitoring shall be determined by the Qualified Paleontologist and the location and extent of proposed ground disturbance. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, the Qualified Paleontologist may recommend that monitoring be limited to periodic spot-checking or cease entirely.

GEO-1(b) Fossil Discovery, Preparation, and Curation

If a paleontological resource is discovered at any time during earthmoving activities, the construction contractor shall ensure that all construction activities in the immediate area of the find are halted and diverted, and the City is contacted. A qualified paleontologist shall be retained (if not done so already) to evaluate the discovery. The paleontologist shall have the authority to temporarily direct, divert or halt construction activity around the find until it is assessed for scientific significance and collected to ensure that the fossil(s) can be removed in a safe and timely manner.

Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition and curated in a scientific institution with a permanent paleontological collection (such as the Natural History Museum of Los Angeles County [NHMLAC]) along with all pertinent field notes, photos, data, and maps.

Significance After Mitigation

Mitigation Measures GEO-1(a) and GEO-1(b) would reduce impacts to a less than significant level.

4.4.4 Cumulative Impacts

The area to analyze cumulative paleontological resource impacts includes the City limits of Burbank. As discussed in the *Impact Analysis*, the geologic units in the City could potentially yield fossils. However, implementation of Mitigation Measures GEO-1(a) and GEO-1(b) would ensure that Project impacts to paleontological resources would not be significant by creating added protections for potentially sensitive paleontological sites. Such compliance, and implementation of these measures would ensure that the implementation of the proposed Project would not contribute to cumulatively considerable impacts related to paleontological resources.

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4.5 Greenhouse Gas Emissions

This section identifies and evaluates impacts related to greenhouse gas (GHG) emissions and climate change. GHGs are emitted by both natural processes and human activities. The accumulation of GHGs in the atmosphere regulates Earth's temperature. The State of California has undertaken initiatives designed to address the effects of GHGs, and to establish targets and emission reduction strategies for GHG emissions in California. The GHG data supporting this section is included as Appendix D of this Draft EIR.

4.5.1 Environmental Setting

a. Climate Change and Greenhouse Gases

Earth's natural warming process is known as the "greenhouse effect." Certain atmospheric gases act as an insulating blanket for solar energy to keep the global average temperature in a suitable range for life support. The greenhouse effect raises the temperature of Earth's surface by about 60 degrees Fahrenheit (°F). With the natural greenhouse effect, the average temperature of Earth is about 45°F; without it, Earth would be about minus 15°F. It is normal for Earth's temperature to fluctuate over extended periods of time. Over the past 100 years, Earth's average global temperature has generally increased by one-degree Fahrenheit. In some regions of the world, the increase has been as much as 4°F.

Scientists studying the particularly rapid rise in global temperatures during the late twentieth century believe that natural variability alone does not account for that rise. Rather, human activity spawned by the industrial revolution has likely resulted in increased emissions of carbon dioxide and other forms of GHGs, primarily from the burning of fossil fuels (i.e., during motorized transport, electricity generation, consumption of natural gas, industrial activity, manufacturing, etc.) and deforestation, as well as agricultural activity and the decomposition of solid waste.

Common GHGs that are emitted by both natural processes and human activities include carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Man-made GHGs, many of which have much greater heat-absorption potential than CO_2, include fluorinated gases and sulfur hexafluoride. As emission of these man-made GHGs is typically only associated specific types of industrial development and industrial development is not associated with the proposed Housing Element Update, these fluorinated gases and sulfur hexafluoride are discussed further in this document.

Different types of GHGs have varying global warming potentials (GWPs). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). CO_2 is the most abundant GHG. Other GHGs are less abundant but have higher global warming potential (discussed below) than CO_2. Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the gas emissions, referred to as "carbon dioxide equivalent" (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. CO_2 has a 100-year GWP of one. General characteristics of each GHG discussed in this report is briefly described.

Carbon Dioxide

CO_2 is an odorless, colorless GHG, which has both natural and man-made sources. Natural sources include the following: decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing; man made sources of CO_2 are burning coal, oil, natural gas, and wood.

Methane

CH_4 is a flammable gas and is the main component of natural gas. When one molecule of CH_4 is burned in the presence of oxygen, one molecule of CO_2 and two molecules of water are released. There are no ill health effects from CH_4. A natural source of CH_4 is the anaerobic decay of organic matter. Geological deposits, known as natural gas fields, also contain CH_4, which is extracted for fuel. Other sources are from landfills, fermentation of manure, and cattle. CH_4 has a GWP of 25 (Intergovernmental Panel on Climate Change [IPCC] 2007).

Nitrous Oxide

N_2O is a colorless GHG. High concentrations can cause dizziness, euphoria, and sometimes slight hallucinations. N_2O is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used in rocket engines, race cars, and as an aerosol spray propellant. N_2O has a GWP of 298 (IPCC 2007).

b. Impacts of Global Climate Change in California

Globally, climate change has the potential to affect numerous environmental resources though potential impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG emissions at or above current rates would induce more extreme climate changes during the twenty first century than were observed during the twentieth century. Each of the past three decades has been warmer than all the previous decades in the instrumental record, and the decade from 2000 through 2010 has been the warmest. The observed global mean surface temperature (GMST) from 2011 to 2020 was approximately 0.82 degrees Celsius (°C) higher than the average GMST for the twentieth century (National Oceanic and Atmospheric Administration 2020). Furthermore, several independently analyzed data records of global and regional Land-Surface Air Temperature (LSAT) obtained from station observations jointly indicate that LSAT and sea surface temperatures have increased. Due to past and current activities, anthropogenic GHG emissions are increasing global mean surface temperature at a rate of 0.2°C per decade. In addition to these findings, there are identifiable signs that global warming is currently taking place, including substantial ice loss in the Arctic over the past two decades (IPCC 2014a and 2018).

According to *California's Fourth Climate Change Assessment*, statewide temperatures from 1986 to 2016 were approximately 0.6 to 1.1°C higher than those recorded from 1901 to 1960. Potential impacts of climate change in California may include reduced water supply from snowpack, sea level rise, more extreme heat days per year, more large forest fires, and more drought years (State of California 2018). In addition to statewide projections, *California's Fourth Climate Change Assessment* includes regional reports that summarize climate impacts and adaptation solutions for nine regions of the state and regionally-specific climate change case studies (State of California 2018). However, while there is growing scientific consensus about the possible effects of climate change at a global and statewide level, current scientific modeling tools are unable to predict what local impacts may occur with a similar degree of accuracy. A summary follows of some of the potential effects that could be experienced in California as a result of climate change.

Air Quality

Scientists project that the annual average maximum daily temperatures in California could rise by 2.5 to 5.8°F in the next 50 years and by 5.6 to 8.8°F in the next century. Since 1896, the top five warmest years in the Los Angeles region (in terms of annual average temperature) have all occurred since 2012 (State of California 2018). Higher temperatures are conducive to air pollution formation, and rising temperatures could therefore result in worsened air quality in California. As a result, climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. In addition, as temperatures have increased in recent years, the area burned by wildfires throughout the State has increased, and wildfires have occurred at higher elevations in the Sierra Nevada Mountains. In southern California, the average size of summertime non-Santa Ana based fires has significantly increased from 1,129 hectares in the 1960s to 2,121 hectares in the 2000s (State of California 2018). If higher temperatures continue to be accompanied by an increase in the incidence and extent of large wildfires, air quality could worsen. Severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the state. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains could tend to temporarily clear the air of particulate pollution, which would effectively reduce the number of large wildfires and thereby ameliorate the pollution associated with them (California Natural Resources Agency 2009).

Water Supply

Analysis of paleoclimatic data (such as tree-ring reconstructions of stream flow and precipitation) indicates a history of naturally and widely varying hydrologic conditions in California and the west, including a pattern of recurring and extended droughts. Uncertainty remains with respect to the overall impact of climate change on future precipitation trends and water supplies in California. Year-to-year variability in statewide precipitation levels has increased since 1980, meaning that wet and dry precipitation extremes have become more common (California Department of Water Resources 2018). This trend of increased dry and wet extremes is expected to increase in the future across most of the Los Angeles region (State of California 2018). The uncertainty regarding future precipitation trends complicates the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood. The average early spring snowpack in the western U.S., including the Sierra Nevada Mountains, decreased by about 10 percent during the last century. During the same period, sea level rose over 0.15 meter along the central and southern California coasts (State of California 2018). The Sierra snowpack provides the majority of California's water supply as snow that accumulates during wet winters is released slowly during the dry months of spring and summer. A warmer climate is predicted to reduce the proportion of precipitation that falls as snow and the amount of snowfall at lower elevations, thereby reducing the total snowpack. Projections indicate that average spring snowpack in the Sierra Nevada and other mountain catchments in central and northern California will decline by approximately 66 percent from its historical average by 2050 (State of California 2018).

Hydrology and Sea Level Rise

Climate change could affect the intensity and frequency of storms and flooding. The number of atmospheric rivers (regions of high-water vapor transport from the tropics to the Pacific Coast that produce intense topographic-induced precipitation along southern California mountain ranges) is expected to increase in the future, resulting in an extended flood hazard season (State of California 2018). Furthermore, climate change could induce substantial sea level rise in the coming century. Rising sea level increases the likelihood of and risk from coastal flooding. The rate of increase of global mean sea levels between 1993 to 2020, observed by satellites, is approximately 3.6 millimeters per year, more than double the twentieth century trend of 1.6 millimeters per year (World Meteorological Organization 2013; National Aeronautics and Space Administration 2021). Sea levels are rising faster now than in the previous two millennia, and the rise will probably accelerate, even with robust GHG emission control measures. The most recent IPCC report predicts a mean sea level rise of 0.25 to 0.94 meter by 2100 (IPCC 2018). A rise in sea levels could erode 31 to 67 percent of southern California beaches and cause flooding of approximately 370 miles of coastal highways during 100-year storm events. This would also jeopardize California's water supply due to saltwater intrusion and induce groundwater flooding and/or exposure of buried infrastructure (State of California 2018). Furthermore, increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events. In the Los Angeles region, the effects of sea level rise on the coastline is expected to be compounded by the impacts of wave events during coastal storms because much of the coastline is comprised of wide sandy beaches (State of California 2018).

Agriculture

California has an over $50 billion annual agricultural industry ($176 million of which is from Los Angeles County) that produces over a third of the country's vegetables and two-thirds of the country's fruits and nuts (California Department of Food and Agriculture 2021). Higher CO_2 levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, certain regions of agricultural production could experience water shortages of up to 16 percent, which would increase water demand as hotter conditions lead to the loss of soil moisture. In addition, crop yield could be threatened by water-induced stress and extreme heat waves, and plants may be susceptible to new and changing pest and disease outbreaks (State of California 2018). Temperature increases could also change the time of year certain crops, such as wine grapes, bloom or ripen, and thereby affect their quality (California Climate Change Center 2006).

Ecosystems and Wildlife

Climate change and the potential resultant changes in weather patterns could have ecological effects on global and local scales. Soil moisture is likely to decline in many regions as a result of higher temperatures, and intense rainstorms are likely to become more frequent. Rising temperatures could have four major impacts on plants and animals: timing of ecological events; geographic distribution and range of species; species composition and the incidence of nonnative species within communities; and ecosystem processes, such as carbon cycling and storage (Parmesan 2006; State of California 2018).

4.5.2 Regulatory Setting

Climate change and GHG emissions are governed by an evolving body of laws, regulations, and case law. Below are summaries of key regulations; however, the discussion below should not be considered exhaustive of this growing body of regulation.

a. Federal

Federal Clean Air Act

The U.S. Supreme Court determined in *Massachusetts et al. v. Environmental Protection Agency et al.* ([2007] 549 U.S. 05-1120) that the U.S. Environmental Protection Agency (USEPA) has the authority to regulate motor vehicle GHG emissions under the Federal Clean Air Act. The USEPA issued a Final Rule for mandatory reporting of GHG emissions in October 2009. This Final Rule applies to fossil fuel suppliers, industrial gas suppliers, direct GHG emitters, and manufacturers of heavy-duty and off-road vehicles and vehicle engines and requires annual reporting of emissions. In 2012, the USEPA issued a Final Rule that established the GHG permitting thresholds that determine when Clean Air Act permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities.

In *Utility Air Regulatory Group v. Environmental Protection Agency* (134 Supreme Court 2427 [2014]), the U.S. Supreme Court held the USEPA may not treat GHGs as an air pollutant for purposes of determining whether a source can be considered a major source required to obtain a Prevention of Significant Deterioration or Title V permit. The Court also held that Prevention of Significant Deterioration permits otherwise required based on emissions of other pollutants may continue to require limitations on GHG emissions based on the application of Best Available Control Technology.

Safer Affordable Fuel-Efficient Vehicles Rule

On September 27, 2019, the USEPA and the National Highway Traffic Safety Administration published the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program. The SAFE Rule Part One revokes California’s authority to set its own GHG emissions standards and to adopt its own zero-emission vehicle mandates. On April 30, 2020, the USEPA and the National Highway Traffic Safety Administration published Part Two of the SAFE Vehicles Rule, which revised corporate average fuel economy and CO_2 emissions standards for passenger cars and trucks of model years 2021 to 2026 such that the standards increase by approximately 1.5 percent each year through model year 2026 as compared to the approximately five percent annual increase required under the 2012 standards (National Highway Traffic Safety Administration 2020). To account for the effects of the SAFE Vehicles Rule, California Air Resources Board (CARB) released off-model adjustment factors on June 26, 2020 to adjust GHG emissions outputs from the EMFAC model (CARB 2020).

b. State

California Advanced Clean Cars Program

Assembly Bill (AB) 1493 (2002), California’s Advanced Clean Cars program (referred to as “Pavley”), requires CARB to develop and adopt regulations to achieve “the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles.” On June 30, 2009, the USEPA granted the waiver of Clean Air Act preemption to California for its GHG emission standards for motor vehicles, beginning with the 2009 model year, which allowed California to implement more stringent vehicle emission standards than those promulgated by the USEPA. Pavley I regulates model years from 2009 to 2016 and Pavley II, now referred to as “LEV (Low Emission Vehicle) III GHG,” regulates model years from 2017 to 2025. The Advanced Clean Cars program coordinates the goals of the LEV, Zero Emissions Vehicles (ZEV), and Clean Fuels Outlet programs and would provide major reductions in GHG emissions. By 2025, the rules will be fully implemented, and new automobiles will emit 34 percent fewer GHGs and 75 percent fewer smog-forming emissions from their model year 2016 levels (CARB 2011). However, as a result of the SAFE Vehicles Rule discussed above, California's waiver of Clean Air Act preemption was revoked, thereby rescinding the CARB's authority to implement the Advanced Clean Cars program.

California Global Warming Solutions Act of 2006 (Assembly Bill 32 and Senate Bill 32)

The "California Global Warming Solutions Act of 2006," (AB 32), outlines California's major legislative initiative for reducing GHG emissions. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 and requires CARB to prepare a Scoping Plan that outlines the main State strategies for reducing GHG emissions to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions. Based on this guidance, CARB approved a 1990 statewide GHG level and 2020 target of 431 million metric tons (MMT) of carbon dioxide equivalent (CO_2e), which was achieved in 2016. The CARB approved the Scoping Plan on December 11, 2008, which included GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among others (CARB 2008). Many of the GHG reduction measures included in the Scoping Plan (e.g., Low Carbon Fuel Standard, Advanced Clean Car standards, and Cap-and-Trade) have been adopted since the Scoping Plan's approval.

The CARB approved the 2013 Scoping Plan update in May 2014. The update defined the CARB's climate change priorities for the next five years, set the groundwork to reach post-2020 statewide goals, and highlighted California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the original Scoping Plan. It also evaluated how to align the state's longer term GHG reduction strategies with other state policy priorities, including those for water, waste, natural resources, clean energy, transportation, and land use (CARB 2014).

On September 8, 2016, the governor signed Senate Bill (SB) 32 into law, extending the California Global Warming Solutions Act of 2006 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, the CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program, and implementation of recently adopted policies and legislation, such as SB 1383 and SB 100 (discussed later). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with statewide per capita goals of six MT of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, sub-regional, or regional level), but not for specific individual projects because they include all emissions sectors in the State (CARB 2017).

Senate Bill 375

The Sustainable Communities and Climate Protection Act of 2008 (SB 375), signed in August 2008, enhances the State's ability to reach AB 32 goals by directing the CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP). Qualified projects consistent with an approved SCS or Alternative Planning Strategy (categorized as "transit priority projects") can receive incentives to streamline CEQA processing.

On March 22, 2018, CARB adopted updated regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035. The Southern California Association of Governments (SCAG) was assigned targets of an 8 percent reduction in per capita GHG emissions from passenger vehicles by 2020 and a 19 percent reduction in per capita GHG emissions from passenger vehicles by 2035. In the SCAG region, SB 375 also provides the option for the coordinated development of subregional plans by the subregional councils of governments and the county transportation commissions to meet SB 375 requirements. On September 3, 2020, the SCAG's Regional Council formally adopted the 2020-2045 RTP/SCS entitled Connect SoCal, which meets the requirements of SB 375.

Senate Bill 1383

Adopted in September 2016, SB 1383 (Lara, Chapter 395, Statues of 2016) requires the CARB to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants. SB 1383 requires the strategy to achieve the following reduction targets by 2030:

- Methane – 40 percent below 2013 levels
- Hydrofluorocarbons – 40 percent below 2013 levels
- Anthropogenic black carbon – 50 percent below 2013 levels

As a result, the CARB adopted the Short-Lived Climate Pollutant Reduction Strategy in 2017 and has initiated implementation. SB 1383 also requires the California Department of Resources Recycling and Recovery (CalRecycle), in consultation with the CARB, to adopt regulations that achieve specified targets for reducing organic waste in landfills. CalRecycle has initiated the rulemaking process for these regulations with the proposed regulation text submitted to the Office of Administrative Law in October 2020.

Senate Bill 100

Adopted on September 10, 2018, SB 100 supports the reduction of GHG emissions from the electricity sector by accelerating the State's Renewables Portfolio Standard (RPS) Program, which was last updated by SB 350 in 2015. SB 100 requires electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

Executive Order B-55-18

On September 10, 2018, former Governor Brown issued Executive Order (EO) B-55-18, which established a new statewide goal of achieving carbon neutrality by 2045 and maintaining net negative emissions thereafter. This goal is in addition to the existing statewide GHG reduction targets established by SB 375, SB 32, SB 1383, and SB 100.

California Building Standards Code

Title 24 of the California Code of Regulations (CCR) is referred to as the California Building Standards Code. It consists of a compilation of several distinct standards and codes related to building construction including plumbing, electrical, interior acoustics, energy efficiency, and handicap accessibility for persons with physical and sensory disabilities. The current iteration is the 2019 Title 24 standards, which the City of Burbank has adopted in Burbank Municipal Code. The California Building Standards Code's energy-efficiency and green building standards are outlined below.

Part 6 – Building Energy Efficiency Standards/Energy Code

CCR Title 24, Part 6 is the Building Energy Efficiency Standards or California Energy Code. This code, originally enacted in 1978, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy demand. New construction and major renovations must demonstrate their compliance with the current Energy Code through submittal and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission (CEC).

Part 11 – California Green Building Standards

The California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11, first in 2009 as a voluntary code, which then became mandatory effective January 1, 2011 (as part of the 2010 California Building Standards Code). The 2019 CALGreen includes mandatory minimum environmental performance standards for all ground-up new construction of residential and non-residential structures. It also includes voluntary tiers (Tiers I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Local jurisdictions must enforce the minimum mandatory CALGreen standards and may adopt additional amendments for stricter requirements.

The mandatory standards require:

- 20 percent reduction in indoor water use relative to specified baseline levels;[1]
- 65 percent construction/demolition waste diverted from landfills;
- Inspections of energy systems to ensure optimal working efficiency;
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards;
- Dedicated circuitry to facilitate installation of electric vehicle (EV) charging stations in newly constructed attached garages for single-family and duplex dwellings ("EV ready"); and
- Designation of at least ten percent of parking spaces for multi-family residential developments as electric vehicle charging spaces capable of supporting future electric vehicle supply equipment ("EV capable").

The voluntary standards require:

- **Tier I:** stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste with third-party verification, 10 percent recycled content for building materials, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof; and
- **Tier II:** stricter energy efficiency requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste with third-party verification,

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[1] Similar to the compliance reporting procedure for demonstrating Energy Code compliance in new buildings and major renovations, compliance with the CALGreen water-reduction requirements must be demonstrated through completion of water use reporting forms. Buildings must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified by CALGreen or a reduced per-plumbing-fixture water use rate.

15 percent recycled content for building materials, 30 percent permeable paving, 25 percent cement reduction, and cool/solar reflective roof.

California Integrated Waste Management Act (Assembly Bill 341)

The California Integrated Waste Management Act of 1989, as modified by AB 341 in 2011, requires each jurisdiction's source reduction and recycling element to include an implementation schedule that shows: (1) diversion of 25 percent of all solid waste by January 1, 1995 through source reduction, recycling, and composting activities; and (2) diversion of 50 percent of all solid waste on and after January 1, 2000.

c. Regional

South Coast Air Quality Management District

South Coast Air Quality Management District (SCAQMD) is principally responsible for comprehensive air pollution control in the South Coast Air Basin, which includes Los Angeles, Orange, and the urbanized portions of Riverside and San Bernardino Counties, including the Plan Area. SCAQMD works directly with SCAG, County transportation commissions, and local governments and cooperates actively with all federal and State government agencies to regulate air quality.

In April 2008, the SCAQMD, in order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, convened a GHG CEQA Significance Threshold Working Group. The goal of the working group is to develop and reach consensus on an acceptable CEQA-significance thresholds for GHG emissions that may be utilized on an interim basis until CARB (or some other State agency) develops guidance on assessing the significance of GHG emissions under CEQA.

Southern California Association of Governments

On September 3, 2020, SCAG's Regional Council voted to approve and fully adopt the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS), also known as *Connect SoCal*. The 2020-2045 RTP/SCS builds upon the progress made through implementation of the 2016-2040 RTP/SCS and includes ten goals focused on promoting economic prosperity, improving mobility, protecting the environment, and supporting healthy/complete communities. The SCS implementation strategies include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, and supporting implementation of sustainability policies. The SCS establishes a land use vision of center focused placemaking, concentrating growth in and near Priority Growth Areas, transferring of development rights, urban greening, creating greenbelts and community separators, and implementing regional advance mitigation (SCAG 2020).

The SCS technical report of the 2020-2045 RTP/SCS demonstrates the region's ability to attain and exceed the GHG emission reduction targets set forth by CARB; and outlines the region's plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The regional vision of the 2020-2045 RTP/SCS maximizes current voluntary local efforts that support the goals of SB 375. The 2020-2045 RTP/SCS emphasizes new housing and job growth in transit priority areas, livable corridors, high-quality transit areas, and neighborhood mobility areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures.

SCAG's SCS provides specific strategies and tools for successful implementation. These include supporting projects that provide diverse housing choices, focusing growth near destinations and mobility options, leveraging technology innovations such as bike sharing and neighborhood electric vehicles, implementing congestion pricing, improvements to pedestrian infrastructure, and more.

d. Local

Burbank2035 Greenhouse Gas Reduction Plan

The City of Burbank adopted the Burbank2035 Greenhouse Gas Reduction Plan (GGRP) in 2013. Guided by the framework set forth in the City's 2035 General Plan, the GGRP implements Goal 3 and associated Policies 3.1 and 3.2. Policy 3.1 establishes the target for Burbank to reduce communitywide GHG emissions by at least 15 percent from current levels by 2020, and Policy 3.2 establishes the goal to reduce emissions by at least 30 percent from current levels by 2035. This target and goal are consistent with statewide efforts established in the Scoping Plan to reduce statewide GHG emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050 (City of Burbank 2013).

Based on the 2010 jurisdictional emissions inventory and projections for the City provided in the GGRP, the 2020 communitywide emissions reduction target is 1,430,120 MT of CO_2e/year. Reductions from current statewide policies would contribute emissions reductions of 368,670 MT of CO_2e/year. Therefore, local actions must address an emissions gap of 61,109 MT of CO_2e/year by 2020. To achieve the 2035 communitywide emissions reduction goal of 1,177,746 MT of CO_2e/year, the City would require reductions of 949,754 MT of CO_2e/year. Reductions achieved from statewide policies would contribute 494,944 MT of CO_2e/year and local actions would be needed to achieve the remaining emissions gap of 454,810 MT of CO_2e/year by 2035.

The Draft GGRP Update, which was released in August 2021, included an inventory of communitywide emissions (City of Burbank 2021). As of 2019, the City has reduced GHG emission by 28 percent from 2010 baseline emission levels, well-exceeding the 2020 target in the original GGRP and approaching the 2035 target established well in advance of the horizon year. To reflect new State goals established by SB 32 and EO B-55-18, the Draft GGRP Update recommends aggressive GHG emissions targets including:

- Reduce GHG emissions to 49 percent below 2010 levels by 2030 (SB 32 target year),
- Reduce GHG emissions to 66 percent below 2010 levels by 2035 (General Plan horizon year), and
- Achieve carbon neutrality by 2045 (EO B-55-18 target year).

As discussed in Section 4.1, *Air Quality*, the Burbank2035 General Plan provides goals and policies related to GHG reductions in the Air Quality and Climate Change Element. The specific goals and policies include the following:

Goal 3: Reduction of Greenhouse Gas Emissions

Policy 3.1: Develop and adopt a binding, enforceable reduction target and mitigation measures and actions to reduce communitywide greenhouse gas emissions within Burbank by at least 15 percent from current levels by 2020.

Policy 3.2: Establish a goal and strategies to reduce communitywide greenhouse gas emissions by at least 30 percent from current levels by 2035.

Policy 3.3: Continue to participate in the Cities for Climate Protection program and applicable State and federal climate change programs.

Policy 3.4: Reduce greenhouse gas emissions from new development by promoting water conservation and recycling; promoting development that is compact, mixed-use, pedestrian-friendly, and transit-oriented; promoting energy-efficient building design and site planning; and improving the jobs/housing ratio.

Policy 3.5: Submit an annual report on implementation of the Greenhouse Gas Reduction Plan, in conjunction with the annual report to the City Council regarding implementation of Burbank2035.

Policy 3.6: Reduce greenhouse gas emissions by encouraging the retrofit of older, energy inefficient buildings.

Policy 3.8: Transition all economic sectors, new development, and existing infrastructure and development to low- or zero-carbon energy sources. Encourage implementation and provide incentives for low- or zero-carbon energy sources.

Goal 4: Climate Change

Policy 4.1: Evaluate the potential effects of climate change on Burbank's human and natural systems and prepare strategies that allow the City to appropriately respond.

Policy 4.2: Consult with state resource and emergency management agencies regarding updates to climate change science and development of adaptation priorities.

4.5.3 Impact Analysis

a. Methodology

As discussed in the Chapter 2, *Project Description*, the City's housing goal is to ensure that sufficient capacity exists in the Housing Element Update to accommodate the RHNA with a buffer (a total of 10,456 additional housing units) throughout the eight-year planning period. As proposed zoning generally accommodates residential densities between 27 and 87 units per acre, the majority of new development is intended to be multi-family residential, however, buildout may include lower densities. Consistent with the existing housing types in Burbank, this analysis conservatively assumes that 48.5 percent of new development would be single-family residential (5,071 units) and 51.5 percent would be multi-family residential (5,385 units).

Additionally, as discussed in Chapter 2, *Project Description*, several of the proposed zone changes in Housing Opportunity Sites would include an increase in commercial floor area ratio (FAR). This would allow for up to an additional 1,428,827 square feet of commercial to be developed than is currently allowed.

GHG emissions result from both direct and indirect sources. Direct emissions include emissions from fuel combustion in vehicles and natural gas combustion from stationary sources. Indirect sources include off-site emissions occurring because of electricity and water consumption and solid waste generation. In addition, construction activities would result in direct and indirect emissions.

Mobile Sources

Mobile source emissions were estimated using vehicle activity data presented in Section 4.11, *Transportation*, and vehicle emission rates from CARB's EMFAC2017 model. Overall residential VMT growth and employment VMT growth between the existing (2021) condition and the future (2029) condition were attributed to the Housing Element Update. As shown in Table 4.5-1, buildout of the existing land use designations would gradually increase vehicle trips and vehicle miles traveled (VMT). However, per capita and per employee VMT would each diminish due to reduced trip lengths.

Table 4.5-1 Vehicle Activity Data for the Housing Element Update

Activity	Existing (2021)	With Project (2029)	Project vs. No Project (2029)[1]	
Residential VMT	1,219,394	1,187,371	-32,023	(-2.6%)
Residential Vehicle Trips	4,911	788,283	+4,911	(+3.4%)
Residential Average Trip Length	8.5	8.0	-0.5	(-5.9%)
Residential VMT per capita	11.3	9.2	-2.1	(-18.5%)
Employment VMT	2,016,992	2,198,215	+181,223	(+9.0%)
Employment Vehicle Trips	128,750	142,510	+13,760	(+10.7%)
Employment Average Trip Length	15.7	15.4	-0.2	(-1.5%)
Employment VMT per Employee	16.9	16.7	-0.2	(-1.3%)

[1] Quantities may not sum properly due to independent rounding.

VMT = Vehicle Miles Traveled

Source: Fehr & Peers 2021

Energy Sources

Energy use emissions were calculated according to the methodology explained in Appendix A of the CalEEMod User Guide, Version 2020.4.0. The energy use estimates account for the 2019 Building Energy Efficiency Standards (Title 24). This is a conservative assumption since the energy use estimates do not account for potential energy efficiency measures required by subsequent Title 24 updates in 2022, 2025, and 2028.

Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (California Air Pollution Control Officers Association [CAPCOA] 2021). The Project would be served by Burbank Water and Power. Therefore, Burbank Water and Power specific energy intensity factors (i.e., the amount of CO_2, CH_4, and N_2O per kilowatt-hour) are used in the calculations of GHG emissions. The energy intensity factors included in CalEEMod are based on 2021 data. As of 2020, Burbank Water and Power is projected to procure 33 percent of its electricity from renewable sources and as of 2021 is projected procure 43 percent of its electricity from renewable sources (Burbank Water and Power 2018). Consistent with the requirements of SB 100, Burbank Water and Power is retiring procurement of electricity from coal-fueled power plants in 2025, which currently represents approximately 28 percent of its electricity procurement (Burbank Water and Power 2019). By 2030, Burbank Water and Power is projected to procure 67 percent of its electricity from renewable sources (Burbank Water and Power 2018). To account for the continuing effects of the RPS, the energy intensity factors included in CalEEMod were reduced to reflect 67 percent renewable energy procurement in 2030. Burbank Water and Power energy intensity factors that include this reduction are shown in Table 4.5-2.

Table 4.5-2 Burbank Water and Power Energy Intensity Factors

	2021 (lbs./MWh)	2030 (lbs./MWh)
Percent procurement[1]	43%	67%
Carbon dioxide (CO_2)	929.98	538.41
Methane (CH_4)	0.033	0.019
Nitrous oxide (N_2O)	0.004	0.002

[1] Source: Burbank Water and Power 2019 Integrated Resource Plan

lbs./MWh = pounds per megawatt-hour

Area Sources

Emissions associated with area sources, including consumer products, landscape maintenance, and architectural coating, were calculated in CalEEMod and utilize standard emission rates from CARB, USEPA, and emission factor values provided by the local air district (CAPCOA 2017).

Water and Wastewater Emissions

Water used and wastewater produced by a project generate indirect GHG emissions. These emissions are a result of the energy used to supply, convey, and treat water and wastewater. In addition to the indirect GHG emissions associated with energy use, the wastewater treatment process itself can directly emit both CH_4 and N_2O. Indoor and outdoor water use was estimated based on average consumption rates from the Pacific Institute's Waste Not, Want Not: The Potential for Urban Water Conservation in California (2003).

Solid Waste Emissions

The disposal of solid waste produces GHG emissions from the transportation of waste, anaerobic decomposition in landfills, and incineration. To calculate the GHG emissions generated by solid waste disposal, the total volume of solid waste was calculated using waste disposal rates identified by CalRecycle. The methods for quantifying GHG emissions from solid waste are based on the IPCC method, using the degradable organic content of waste. GHG emissions associated with the project's waste disposal were calculated using these parameters. The disposal of solid waste produces GHG emissions from the transportation of waste, anaerobic decomposition in landfills, and incineration. As of 2016, California had achieved a statewide 44 percent diversion of solid waste from landfills through "reduce/recycle/compost" programs (CalRecycle 2020).

Construction

GHG emissions would also be generated by construction activity. No specific development projects have been proposed as part of the Housing Element Update; therefore, an annualized quantification of construction emissions would be speculative. In addition, construction-related GHG emissions would be a negligible percentage of total regional emissions when considering the emissions generated by mobile sources. As stated in the 2020-2045 SCAG RTP/SCS PEIR, construction related emissions account for less than 0.3 percent of total regional emissions (SCAG 2020). Nevertheless, construction emissions are calculated and amortized over 30 years in accordance with SCAQMD recommendations.

The number of new housing units anticipated under the Housing Element Update (total of 10,456 additional housing units) was used to model GHG emissions generated by construction activities for reasonably foreseeable development. For projects that involve development of land uses that occupy more than 34 acres, CalEEMod extrapolates longer phase duration rather than increasing the estimated amount of equipment and number of workers. As such, emissions estimates were modeled for a project including 51 single-family units, 54 multi-family units, and 15,000 square feet of commercial area; results were multiplied by a factor of 100. This is a slightly conservative estimate as it is estimating emissions from 5,100 single-family units, 5,400 multi-family units, and 1,500,000 square feet. GHG construction emissions are amortized.

CalEEMod does not assume any export of demolition debris or any soil import/export from grading. As few vacant sites remain in the City, development accommodated under the Housing Element Update would result from infill development are the replacement of underutilized, low-density development. This analysis conservatively assumes demolition of existing buildings equal to one-half of the floor area of new development. Housing development typically balances grading cut and fill materials on-site to reduce costs; nonetheless, development accommodated under the Housing Element Update may include sites that require substantial grading including that needed to accommodate subterranean parking facilities. This analysis assumes an average cut depth of 10 feet for the area of the building footprint and that 25 percent of the cut soil would be exported. With these factors included, CalEEMod was used to conservatively estimate GHG emissions resulting from housing development accommodated under the Housing Element Update. With these factors included, CalEEMod was used to estimate reasonably foreseeable GHG emissions resulting from the Housing Element Update.

b. Thresholds of Significance

Thresholds of significance are based on the questions in Appendix G of the CEQA Guidelines. The Initial Study prepared for the Project (Appendix B) determined that a potentially significant impact might occur under the following threshold and therefore will be analyzed in this section of the EIR.

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment
2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases

To answer the Appendix G questions above for the Housing Element Update, the City will rely on the following project-specific threshold of significance to assess the environmental impacts associated with GHG emissions.

Consistency with State Scoping Plan (SB 32), 2020-2045 RTP/SCS (SB 375), and the Burbank2035 Greenhouse Gas Reduction Plan

The basis for the project specific threshold is provided as follows. The City has not adopted specific GHG significance thresholds. SCAQMD has not adopted a GHG significance threshold for land use development projects, although it has adopted significance thresholds for industrial-type projects for which it is the lead agency (SCAQMD 2010). Those industrial thresholds are not relevant to the Housing Element Update, as the only projects for which the SCAQMD serves as the lead agency are those involving the adoption of air quality rules or regulations, or those projects that have not gone through CEQA environmental review via another lead agency. No industrial projects would be accommodated by the Housing Element Update. In the absence of adopted thresholds for land use development projects based on SCAQMD guidance, the City has the discretion to use a significance threshold relevant to the Housing Element Update.

On November 30, 2015, the California Supreme Court issued an opinion on GHG significance thresholds for CEQA in the case *Center for Biological Diversity et al. vs. California Department of Fish and Wildlife*. The following discussion is paraphrased from that case, which assessed the use of GHG significance thresholds.

The Court stated that California air pollution control officials and air quality districts have made several proposals for numerical thresholds. Multiple agencies' efforts at framing GHG significance issues have not yet coalesced into any widely accepted set of numerical thresholds, but have produced a certain level of consensus on the value of consistency with the State plans to meet GHG reduction targets as a criterion. The CARB Scoping Plan has not set out a method for CEQA analysis of GHG emissions from a proposed project. A 2007 CEQA amendment, however, required the preparation, adoption, and periodic update of guidelines for mitigation of GHG impacts. The resulting State direction was that a lead agency should attempt to describe, calculate, or estimate the amount of GHG emissions a project will emit, but recognized that agencies have discretion in how to do so. The amendment provides that when assessing the significance of GHG emissions, the agency should consider these factors among others: (1) the extent to which the project may increase or reduce GHG emissions as compared to the existing environmental setting; (2) whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; and (3) the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The Court also acknowledged that the scope of global climate change and the fact that GHGs, once released into the atmosphere, are not contained in the local area of their emission means that the evaluated impacts are global rather than local. For many air pollutants, the significance of their environmental impact may depend greatly on where they are emitted, but this is not the case for GHG emissions. For projects that are designed to accommodate long-term growth in California's population and economic activity in a sustainable manner, such as the Housing Element Update, this fact gives rise to an argument that a certain amount of GHG emissions is as inevitable as population growth. Under this view, a significance criterion framed in terms of efficiency and conservation in land use (as compared to a business-as-usual [BAU] pattern of growth) is superior to a simple numerical threshold because CEQA is not intended as a population control measure.

This consideration favors consistency with statewide GHG reduction targets as a permissible significance criterion for project GHG emissions. Meeting statewide reduction goals does not preclude all new development. Rather, the Scoping Plan, the State's roadmap for meeting statewide GHG reduction targets, assumes continued growth and depends on increased efficiency and conservation in land use and transportation from all Californians. To the extent a project incorporates efficiency and conservation measures sufficient to contribute its portion of the overall GHG reductions necessary for the entire State, one can reasonably argue that its impact is not cumulatively considerable, because it would be helping to solve the cumulative problem of GHG emissions as envisioned by California law. Given the reality of growth, some GHG emissions from new housing developments are inevitable. The critical CEQA question is the cumulative significance of a project's GHG emissions and, as discussed previously, from a climate change point of view it does not matter where in the State those emissions are produced. Under these circumstances, evaluating the significance of a project's GHG emissions with respect to their effect on the State's efforts to meet its long-term goals is a reasonable threshold.

The Supreme Court in Center for Biological Diversity recognized potential options for analyzing cumulative significance of a project's GHG emissions, including:

- BAU Model. BAU comparison based on the Scoping Plan methodology if supported by substantial evidence that the metric used supports what level of reduction from business as usual a new land use development at the proposed location must contribute to comply with state goals.
- Consistency with AB 32's goal in whole or in part by looking at compliance with regulatory programs designed to reduce GHG; provided the project complies with or exceeds the regulations that were adopted by CARB, or state agencies to comply with Scoping Plan; and provided, the significance analysis only relates to impacts within the area governed by the regulation – e.g., reliance on Title 24 energy efficiency rules that are intended to reduce GHG from building would not address GHG impacts from transportation. And/or showing consistency with local GHG reduction plans, (e.g., climate action plan), to provide a basis for the tiering or streamlining of project-level CEQA analysis, including as consistent with CEQA Guidelines Section 15183.3.
- Relying on numerical thresholds for significance for GHG.

As discussed with in Regulatory Setting, Section 15064.4 was amended in 2019 to incorporate the holding in Center for Biological Diversity case as well as others. That section now directs lead agencies as follows:

Section 15064.4. Determining the Significance of Impacts from Greenhouse Gas Emissions.

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in Section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

  (1) Quantify greenhouse gas emissions resulting from a project; and/or

  (2) Rely on a qualitative analysis or performance-based standards.

(b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:

(1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;

(2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

(3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., Section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project’s consistency with the State’s long-term climate goals or strategies, provided that substantial evidence supports the agency’s analysis of how those goals or strategies address the project’s incremental contribution to climate change and its conclusion that the project’s incremental contribution is not cumulatively considerable.

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project’s incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

Based on the above legal standards, the City finds analyzing the Project’s GHG emissions through consistency with the State’s laws and programs to address climate change, including SB 32, SB 375, regional plans to address climate change consistent with State laws and plans, including the 2020-2045 SCS/RTP, and local plans, ordinances and policies to address climate change, including Burbank2035 Greenhouse Gas Reduction Plan, is the appropriate threshold.

Basis for Estimate of Project’s GHG Emissions

As stated above, CEQA Guidelines, Section 15064.4(a) states a lead agency shall make a good-faith effort, based to the extent possible on scientific and factual date, to describe and estimate the amount of greenhouse gas emissions resulting from a project. CEQA Guidelines, Section 15064.4(c) states a lead agency may use a model or methodology to estimate GHG emissions resulting from the project and that the lead agency has the discretion to select the model or methodology is considers most appropriate to enable decision makers to intelligently take into account the project’s incremental contribution to climate change.

Calculating and analyzing per-service population GHG emissions, while not a threshold of significance, is a useful indicator as to whether regional GHG impacts are consistent with State plans to meet the GHG reduction target established by SB 32. Per-service population GHG emissions reflect average GHG emissions taking into account population density. As discussed in the 2017 Scoping Plan goals, local jurisdictions may demonstrate consistency with Scoping Plan goals (i.e., SB 32's emission reduction target) by establishing communitywide emissions targets tied to the statewide per capita goals of 6 $MTCO_2e$ per capita by 2030. The City of Burbank has a current population of 104,969. As discussed in Section 4.8, *Population and Housing*, buildout accommodated by the Housing Element Update is anticipated to increase the City's population from 104,969 persons to approximately 130,586 persons. Based on SCAG Regional Growth Forecasts, the City is anticipated to have approximately 128,658 jobs in 2030 (SCAG 2020). Therefore, as shown in Table 4.5-3, the communitywide emissions target of 6 $MTCO_2e$ may be equated to approximately 3.0 $MTCO_2e$ per service population.[2]

Table 4.5-3 Service Population Emissions Level Target Determination

Metric	Quantity	Source
Service Population Derivation		
Population, 2030	130,586 persons	Section 4.8, *Population and Housing*
Employment, 2030	128,658 jobs	SCAG 2020-2045 Growth Forecast
Service Population, 2030	259,244 SP	130,586 + 128,658
2030 Communitywide Target Derivation		
Per Capita Target	6.0 $MTCO_2e$ per capita	2017 Scoping Plan
Mass Emissions Target	783,516 $MTCO_2e$	6.0 $MTCO_2e$ * 130,586 persons
Service Population Target	3.0 $MTCO_2e$/SP	783,516 $MTCO_2e$ ÷ 259,244 SP

Source: 2017 Scoping Plan (CARB 2017); 2020-2045 Growth Forecast (SCAG 2020)

In accordance with the objectives and requirements of SB 375, the 2020-2045 RTP/SCS assessed regional per-capita GHG emissions from passenger and light duty vehicles. As noted above, regional targets intended to be addressed by the 2020-2045 RTP/SCS include reducing per capita GHG emissions from automobiles and light trucks for the SCAG region to 19 percent below 2005 levels. Using consistency with statewide GHG reduction targets, among the other regulations, standards and policies, rather than a numerical threshold, as a significance criterion is also consistent with the broad guidance provided by Section 15064.4 of the CEQA Guidelines. Section 15064.4, to reflect that there is no iron-clad definition of significance. Section 15064.4 was not intended to restrict agency discretion in choosing a method for assessing GHG emissions, but rather to assist lead agencies in investigating and disclosing all that they reasonably can, regarding a project's GHG emissions impact.

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[2] For comparison, this analysis evaluated what a 40 percent reduction (i.e., SB 32's emission reduction target for 2030) in SCAQMD's Tier 4 2020 efficiency targets. This method would derive a 4.0 $MTCO_2e$ per service population threshold. The 2.8 $MTCO_2e$ per service population threshold is more conservative and is more appropriate as it uses local (rather than statewide) growth forecasts.

c. Project Impacts

Threshold 1:	Would the proposed Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?
Threshold 2:	Would the proposed Project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Impact GHG-1 THE HOUSING ELEMENT UPDATE IS CONSISTENT WITH STATE PLANS TO MEET THE GHG REDUCTION TARGET ESTABLISHED BY SB 32 (STATE SCOPING PLAN), THE 2020-2045 RTP/SCS, AND THE BURBANK2035 GREENHOUSE GAS REDUCTION PLAN. AS THE HOUSING ELEMENT UPDATE IS CONSISTENT WITH ALL STATE, REGIONAL, AND LOCAL PLANS TO REDUCE GHG EMISSIONS, IMPACTS RELATED TO GHG EMISSIONS WOULD BE LESS THAN SIGNIFICANT.

Based on the analysis below, the Housing Element Update would be consistent with measures from the State Scoping Plan and GHG emission would not exceed per capita emissions levels identified in the State Scoping Plan. The Housing Element Update would also be consistent with the goals of the 2020-2045 SCS/RTP and the Burbank2035 Greenhouse Gas Reduction Plan. The Housing Element Update impacts to GHG would be less than significant.

2017 Scoping Plan (SB 32 Implementation)

There are numerous State plans, policies, and regulations adopted to reduce GHG emissions. The principal policy and State plan are SB 32 and the State Scoping Plan that outlines the strategies for reducing GHG emissions to meet the 2030 GHG reduction targets established by SB 32. The Scoping Plan measures applicable to the Project include energy efficiency measures, water conservation and efficiency measures, and transportation and motor vehicle measures, as discussed below.

The following policies in the Housing Element Update would help reduce GHG emissions through promoting transportation and land use design factors, such as intensification and reuse of already developed lands in proximity to transit and commercial areas, that would be relevant to reducing GHG emissions:

Policy 2.1: Direct the majority of new residential development into Downtown Burbank, the Media District and the Golden State/Airport Area to support the building of neighborhoods where people can live, work, shop, and benefit from access to a Metrolink station or other public transit.

Policy 2.2: Update land use regulations that facilitate new opportunities for developing a variety of housing types that include but are not limited to small lot development, condominiums, townhomes, live-work units, micro-units and accessory dwelling units, to accommodate the City's diverse housing needs.

Policy 2.4: Allow residential units in traditionally non-residential areas including mixed-use areas, and support adaptive reuse of non-residential buildings for residential and live-work units.

Policy 2.5: Continue to facilitate the provision of accessory dwelling units (ADUs) and junior accessory dwelling units (JADUs) in all residential districts as a means of creating new opportunities for appropriated scaled and affordable units throughout the community.

Policy 3.8: Encourage use of sustainable and green building design in new and existing housing.

Based on the analysis provided in Table 4.5-4 below, the Housing Element Update would be consistent with the State's Climate Change Scoping Plan's actions and strategies for reducing 2030 GHG emissions in accordance with SB 32.

Table 4.5-4 Consistency Analysis – SB 32 and 2017 Scoping Plan

Actions and Strategies	Responsible	Project Consistency Analysis
Senate Bill 100 (SB 100). The California Renewables Portfolio Standard Program (2018) requires a Statewide renewables energy portfolio that requires retail sellers to procure renewable energy that is at least 50 percent by December 31, 2026 and 60 percent by December 31, 2030. It would also require that local publicly owned electric utilities procure a minimum quantity of electricity from renewable energy resources achieve 44 percent of retail sales by December 31, 2024 and 60 percent by December 31, 2030.	Burbank Water and Power, California Energy Commission	**Consistent.** Burbank Water and Power is required to generate electricity that would increase renewable energy resources to 60 percent by 2030. As Burbank Water and Power would provide electricity service to the housing development accommodated by the Housing Element Update, development would benefit indirectly by reduced GHG emissions from SB 100.
Implement Mobile Source Strategy (Cleaner Technology and Fuels) ▪ At least 1.5 million zero emission and plug-in hybrid light-duty electric vehicles by 2025. ▪ At least 4.2 million zero emission and plug-in hybrid light-duty electric vehicles by 2030. ▪ Further increase GHG stringency on all light-duty vehicles beyond existing Advanced Clean Cars regulations. ▪ Medium- and heavy-duty GHG Phase 2. ▪ Innovative Clean Transit ▪ Last Mile Delivery Further reduce VMT through continued implementation of SB 375 and regional Sustainable Communities Strategies; forthcoming statewide implementation of SB 743; and potential additional VMT reduction strategies not specified in the Mobile Source Strategy but included in the document "Potential VMT Reduction Strategies for Discussion."	CARB, California State Transportation Agency, Southern California Gas, Caltrans California Energy Commission, Office of Planning and Research, local agencies	**Consistent.** GHG emissions generated by vehicular travel related to the Housing Element Update would benefit from proposed regulation, and mobile source emissions generated by the build out of the RHNA would be reduced with implementation of standards under the Advanced Clean Cars Program and the 2020-2045 RTP/SCS.
Increase Stringency of SB 375 Sustainable Communities Strategy (2035 Targets)	CARB	**Consistent.** As discussed below, the Housing Element Update would be consistent with the 2020-2045 RTP/SCS.

Actions and Strategies	Responsible	Project Consistency Analysis
Mobile		
Implement the Short-Lived Climate Pollutant Strategy by 2030: ▪ 40 percent reduction in methane and hydrofluorocarbon emissions below 2013 levels. 50 percent reduction in black carbon emissions below 2013 levels.	CARB, CalRecycle, California Department of Food and Agriculture, California State Water Resources Control Board, local air districts	**Consistent.** Housing development accommodated by the Housing Element Update would comply with the CARB Short-Lived Climate Pollutant (SLCP) Reduction Strategy, which limits the use of hydrofluorocarbons for refrigeration uses.

Source: CARB, California's 2017 Climate Change Scoping Plan, November 2017.

GHG Emissions Generation

Housing development accommodated under the proposed Housing Element Update would generate GHG emissions through the construction and operation of individual housing projects. GHG emissions would specifically arise from direct sources such as motor vehicles, natural gas consumption, solid waste handling/treatment, and indirect sources such as electricity generation.

Table 4.5-5 estimates emissions associated with the Housing Element Update. As discussed in Chapter 2, *Project Description*, the Housing Element Update would accommodate construction of housing in locations with good access to jobs, services, and high-quality public transit. The increase in housing and the additional commercial uses would result in an increase in emissions of 70,685 $MTCO_2e$.

As discussed in the Section 4.5.3, *Thresholds of Significance*, the 2017 Scoping Plan recommends that local governments adopt policies consistent with a statewide per capita goal of 6 $MTCO_2e$ by 2030, which equates to a per service population level of 3.0 $MTCO_2e$ per service population. The Housing Element Update GHG emissions would equate to 2.3 $MTCO_2e$ per service population level, which is below the level necessary to demonstrate consistency with the statewide 2030 GHG reduction targets established by SB 32. This is not a threshold of significance. However, the low per service area emission levels of the Housing Element Update coupled with the consistency analysis above supports that the Housing Element Update would be consistent with the State's Climate Change Scoping Plan's objective of reducing 2030 GHG emissions in accordance with SB 32.

Table 4.5-5 GHG Emissions under the Housing Element Update

Source	Forecasted Activity Level Increase (2029)	Forecasted 2029 GHG Emissions ($MTCO_2e$)
Transportation	-11.7 Million Residential VMT/year +66.1 Million Employment VMT/year	16,695
Electricity	80.3 GWh/year[1]	19,658
Natural Gas	1,993 Thousand Therms/year[1]	10,696
Water Supply		4,923
Potable Water Supply	1,281 Million Gallons/year	
Wastewater Treatment	787 Million Gallons/year	
Solid Waste	9,924 tons	4,991
Other Area Sources[2]	--	3,109
Construction Emissions (Amortized)	--	1,782

Source	Forecasted Activity Level Increase (2029)	Forecasted 2029 GHG Emissions (MTCO$_2$e)
Total	--	**61,854**
Residents[3]	25,617 persons	
Employment	1,534 jobs	
Emissions Rate per Service Population	2.3 MTCO$_2$e/SP	
Service Population Emissions Level Target	3.0 MTCO$_2$e/SP	

[1] Energy use estimates are conservative. Estimates do not account for energy efficiency measures required by the 2019 Title 24 energy efficiency or potential energy efficiency measures required by subsequent Title 24 updates in 2022, 2025, and 2028.

[2] Other area sources include hearths and landscaping equipment.

[3] Residents estimated by multiplying average household size of 2.45 times 10,456 units.

VMT = Vehicle Miles Traveled; GWh = Gigawatt-hours; SP = Service Population

SCAG's 2020-2045 RTP/SCS (SB 32 Implementation)

SB 375 requires that each MPO prepare a SCS with the RTP that demonstrates how the region will meet GHG emissions targets. SB 375 establishes a collaborative relationship between MPOs and CARB to establish GHG emissions targets for each region in the state.

SCAG's 2020-2045 RTP/SCS was developed to provide a blueprint to integrate land use and transportation strategies to help achieve a coordinated and balanced regional transportation system. As discussed in Section 4.5.2, *State Regulatory Framework*, SCAG's 2020 RTP/SCS is a regional plan intended to reduce per capita GHG emission from automobiles and light trucks for the SCAG region to 19 percent below 2005 levels. The SCS implementation strategies include focusing growth near destinations and mobility options, promoting diverse housing choices, leveraging technology innovations, and supporting implementation of sustainability policies.

The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas on existing main streets, in downtowns, and on commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. The underlying purpose of the Housing Element Update is to plan for and accommodate the RHNA compliant with State law and consistent with the City's *Burbank2035* General Plan.

As discussed in Chapter 2, *Project Description*, while some housing development accommodated by the Housing Element Update may occur anywhere existing housing is currently allowed, most housing development is anticipated to occur in higher-intensity commercial and mixed use districts, centers and boulevards, and in proximity to transit. The rezoning of housing opportunity sites is focused in twelve sites within the Downtown Transit-Oriented-Development Specific Plan area and seven sites are located in the proposed Golden State Specific Plan area. These sites are all located in highly urbanized areas in the City and are clustered within one mile of Interstate 5 (I-5). As shown in Table 4.5-1, the Housing Element Update would result in an 18.5 percent reduction of residential VMT per capita and a 1.3 percent reduction employment VMT per employee due to the reduced average trip lengths.

As discussed further in Section 4.8, *Population and Housing,* the State requires that all local governments adequately plan to meet the housing needs of their communities. The proposed element provides appropriate guidance for the residential growth that would occur with or without Project implementation. The Housing Element focuses on expanding housing opportunities for all segments of the population and improving the quality of existing housing stock. Although the Housing Element Update would facilitate development beyond what is forecasted in SCAG's 2020

RTP/SCS, it would reduce per capita and per employee GHG emissions from mobile sources and would contribute to updating the forecasts for the City's General Plan and the RTP/SCS into consistency. Therefore, the Housing Element Update would not conflict with the 2020-2045 RTP/SCS.

Burbank2035 Greenhouse Gas Reduction Plan

The City of Burbank adopted the *2035 Greenhouse Gas Reduction Plan* (GGRP) in 2013. Guided by the framework set forth in the City's 2035 General Plan, the GGRP implements Goal 3 and associated Policies 3.1 and 3.2. Policy 3.1 establishes the target for Burbank to reduce communitywide GHG emissions by at least 15 percent from 2010 baseline levels by 2020; Policy 3.2 establishes the goal to reduce emissions by at least 30 percent from 2010 baseline levels by 2035. Based on the consistency analysis in Table 4.5-6 below, the Housing Element Update is consistent with Burbank GGRP.

Table 4.5-6 Consistency Analysis – Burbank2035 Greenhouse Gas Reduction Plan

Goals and Policies	Consistency Analysis
Measure E-1.1 Action A: Adopt an ordinance requiring new commercial construction to exceed the California Green Building Standards Code energy efficiency baseline by 15% starting in 2015	**Consistent.** Housing development accommodated under the Housing Element would comply with applicable building ordinances including the Green Building Standards Code.
Measure E-1.2 Action A: Adopt an ordinance requiring HERS-certified energy performance ratings for all residential buildings sold within the City Action B: Adopt an ordinance requiring point-of-sale energy audits for all residential and commercial buildings sold within the City Action C: Develop a comprehensive energy efficiency upgrade outreach program	**Consistent.** Housing development accommodated under the Housing Element would comply with applicable building ordinances. Housing Element Policy 3.6 would involve encouraging the retrofit of older, energy inefficient buildings.
Measure E-1.7 Action A: Amend the Zoning Ordinance to require installation of two on-site shade trees for each new single-family residential unit Action B: Continue the BWP Made in the Shade Program Action C: Update the Street Tree Plan and Urban Forestry program	**Consistent.** Housing development accommodated under the Housing Element would comply with applicable building ordinances.
Measure E-2.1 Action A: Adopt an ordinance requiring new single-family residential construction to include 1.8 kWh solar PV systems, and new multi-family residential and commercial construction to meet 10% of its expected energy needs from on-site renewable sources Action B: Adopt an ordinance requiring solar water heaters to be installed in all new residential construction Action C: Update the building code to require pre-wiring and pre-plumbing for solar PV and solar hot water systems in all new construction	**Consistent.** Housing development accommodated under the Housing Element would comply with applicable building ordinances.

Goals and Policies	Consistency Analysis
Measure T-1.4 Action A: Implement bicycle network expansions that have already received funding Action B: Adopt the draft bicycle parking ordinance by December 31, 2012 Action C: Pursue funding to implement other Top Priority Projects identified in Table 5.2 in the 2009 Bicycle Master Plan, with a focus on implementing Class I and II facilities Action D: Identify north-south roads that can accommodate bicycle boulevard facilities to connect the Chandler bicycle path with Burbank and Magnolia Boulevards Action E: Evaluate safety on popular Class III routes and identify potential candidates for upgrades to Class II facilities Action F: Provide bicycles for shared use by all City employees and amenities at the BWP campus and in the Burbank Civic Center to accommodate the shared bicycles Action G: Consider expanding the shared bicycle program to accommodate public use in Downtown Burbank, the Media District, and the Golden State area	**Consistent.** Housing development accommodated under the Housing Element would comply with applicable ordinances including requirements to provide bicycle parking. Housing Element Policy 3.6 would involve promoting development that is compact, mixed-use, pedestrian-friendly, and transit-oriented.
Measure T-1.5 Action A: Adopt draft bicycle accommodation ordinance by June 30, 2013 Action B: Provide technical assistance to developers seeking to comply with the ordinance	**Consistent.** Housing development accommodated under the Housing Element would comply with applicable ordinances including policies regarding bicycle accommodation.
Measure T-2.1 Action A: Update the Transportation Management Organization (TMO) website to provide program information to current and potential members Action B: Develop a TMO business outreach strategy to increase membership and active participation in TMO programs Action C: Expand geographic boundary of TMO into Golden State and Empire areas by 2020 and citywide by 2035 Action D: Require all new businesses with 25 employees or more within the TMO boundary to join the TMO and fulfill required reporting procedures Action E: Expand the carpool/rideshare program through adoption of current technologies Action F: Evaluate the City's guaranteed ride home policy to ensure its applicability to small businesses Action G: Evaluate the City's carpool parking preference requirements	**Consistent.** Housing development accommodated under the Housing Element in the Golden State Specific Plan Area would comply with applicable TMO requirements. Housing Element Policy 3.6 would involve promoting development that is compact, mixed-use, pedestrian-friendly, and transit-oriented.
Measure W1.1 Action A: Implement Urban Water Management Plan water conservation program	**Consistent.** Housing development accommodated under the Housing Element would comply with applicable Urban Water Management Plan water conservation requirements for new development. Housing Element Policy 3.6 would involve promoting water conservation and recycling.

Goals and Policies	Consistency Analysis
Measure W-1.2 Action A: Expand recycled water system Action B: Increase number of targeted large irrigation customers required to use recycled water	**Consistent.** Housing development accommodated under the Housing Element would comply with applicable water-efficient irrigation requirements for new development.
Measure SW-1.2 Action A: Adopt an ordinance requiring recycling bins or recycling areas in all buildings	**Consistent.** Housing development accommodated under the Housing Element would comply with applicable building ordinances. Housing Element Policy 3.6 would involve promoting water conservation and recycling.

Source: Burbank2035 Greenhouse Gas Reduction Plan.

Mitigation Measures

No mitigation measures are required.

4.5.4 Cumulative Impacts

The analysis above analyzes GHG emissions consistent with CEQA Guidelines, Section 15064.4(b) and considers whether the incremental contributions of the Housing Element Update could be cumulatively considerable. The GHG emissions associated with the Housing Element Update would be less than significant, and no further cumulative impact analysis is necessary.

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4.6 Hazards and Hazardous Materials

This section addresses impacts associated with risk of upset related to hazardous materials, hazards to schools, hazardous materials cleanup sites, airports, emergency response plans. The Initial Study for the Project (Appendix B) found no potentially significant impacts related to the transport, use, or disposal of hazardous materials or wildland fires; therefore these issues are not studied further herein.

4.6.1 Environmental Setting

a. Hazardous Materials

The term "hazardous material" has different definitions for different regulatory programs. For the purpose of this EIR, the term "hazardous materials" refers to both hazardous materials and hazardous waste. The California Health and Safety Code Section 25501(n)(1) defines a hazardous material as any material that "because of its quantity, concentrations, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment." Hazardous materials include but are not limited to hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment.

A material is hazardous if it exhibits one or more of the following characteristics: toxicity, ignitability, corrosivity, and reactivity. These types of hazardous materials are defined below:

- **Toxic Substances.** Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability, or even death. For example, such substances can cause disorientation, acute allergic reactions, asphyxiation, skin irritation, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substances involved and is chemical-specific). Carcinogens, substances that can cause cancer, are a special class of toxic substances. Examples of toxic substances include benzene (a component of gasoline and suspected carcinogen) and methylene chloride (a common laboratory solvent and a suspected carcinogen).
- **Ignitable Substances.** Ignitable substances are hazardous because of their ability to burn. Gasoline, hexane, and natural gas are examples of ignitable substances.
- **Corrosive Materials.** Corrosive materials can cause severe burns. Corrosives include strong acids and bases such as sodium hydroxide (lye) or sulfuric acid (battery acid).
- **Reactive Materials.** Reactive materials may cause explosions or generate toxic gases. Explosives, pure sodium or potassium metals (which react violently with water), and cyanides are examples of reactive materials.

Soil and groundwater can become contaminated by hazardous material releases in a variety of ways, including permitted or illicit use and accidental or intentional disposal or spillage. Before the 1980s, most land disposal of chemicals was unregulated, resulting in numerous industrial properties and public landfills becoming dumping grounds for unwanted chemicals. The largest and most contaminated of these sites became Superfund sites, so named for their eligibility to receive cleanup money from a federal fund established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The National Priorities List (NPL) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. The NPL is intended primarily to guide the United States Environmental Protection Agency (USEPA) in determining which sites warrant further investigation. Sites are added to the NPL following a hazard ranking system.

Numerous smaller properties have been designated as contaminated sites. Often these are gas station sites where leaking underground storage tanks (USTs) were upgraded under a federal requirement in the late 1980s. Another category of sites that may have some overlap with the types already mentioned is “brownfields” – previously used, often abandoned, sites that due to actual or suspected contamination are undeveloped or underused. Both the USEPA and California Department of Toxic Substances Control (DTSC) maintain lists of known brownfields sites. These sites are often difficult to inventory due to their owners’ reluctance to publicly label their property as potentially contaminated.

Asbestos Containing Materials

Asbestos is a naturally occurring fibrous material that was widely used in structures built between 1945 and 1978 for its fireproofing and insulating properties. Asbestos-containing materials (ACM) were banned by USEPA between the early 1970s and 1991 under the authority of the federal Clean Air Act (CAA) and the Toxic Substances Control Act (TSCA) due to their harmful health effects. Exposure to asbestos increases risk of developing lung disease, such as lung cancer, mesothelioma, or asbestosis (USEPA 2017a). Common ACMs include vinyl flooring and associated mastic, wallboard and associate joint compound, plaster, stucco, acoustic ceiling spray, ceiling tiles, heating system components, and roofing materials. Pre-1973 commercial and industrial structures are affected by asbestos regulations if damage occurs, or if remodeling, renovation, or demolition activities disturb ACMs.

Lead and Lead-Based Paint

Lead is a naturally occurring metallic element. Because of its toxic properties, lead is regulated as a hazardous material. Excessive exposure to lead can result in the accumulation of lead in the blood, soft tissues, and bones. Children are particularly susceptible to potential lead-related health problems because it is easily absorbed into developing systems and organs. Lead can affect almost every organ and system in the body. In children, lead can cause behavior and learning problems, lower IQ and hyperactivity, hearing problems, and anemia. In adults, lead can cause cardiovascular effects, decreased kidney function, and reproductive problems. In addition, lead can result in serious effects to the developing fetus and infant for pregnant women (USEPA 2017b). Among its numerous uses and sources, lead can be found in paint, water pipes, solder in plumbing systems, and in soils surrounding buildings and structures that are painted with lead-based paint (LBP). LBP was primarily used during the same time period as ACMs. Pre-1978 commercial and industrial structures are affected by LBP regulations if the paint is in a deteriorated condition or if remodeling, renovation, or demolition activities disturb LBP surfaces.

b. Existing Conditions

Hazardous Materials Sites

The locations where hazardous materials are used, stored, treated and/or disposed of comes to the attention of regulatory agencies through various means, including licensing and permitting, enforcement actions, and anonymous tips. To the extent possible, the locations of these businesses and operations are recorded in database lists maintained by various State, Federal, and local regulatory agencies. In addition, Federal, State, and local agencies enforce regulations applicable to hazardous waste generators and users, and the Los Angeles County Fire Department Health Hazardous Materials Division tracks and inspect hazardous materials handlers to ensure appropriate reporting and compliance.

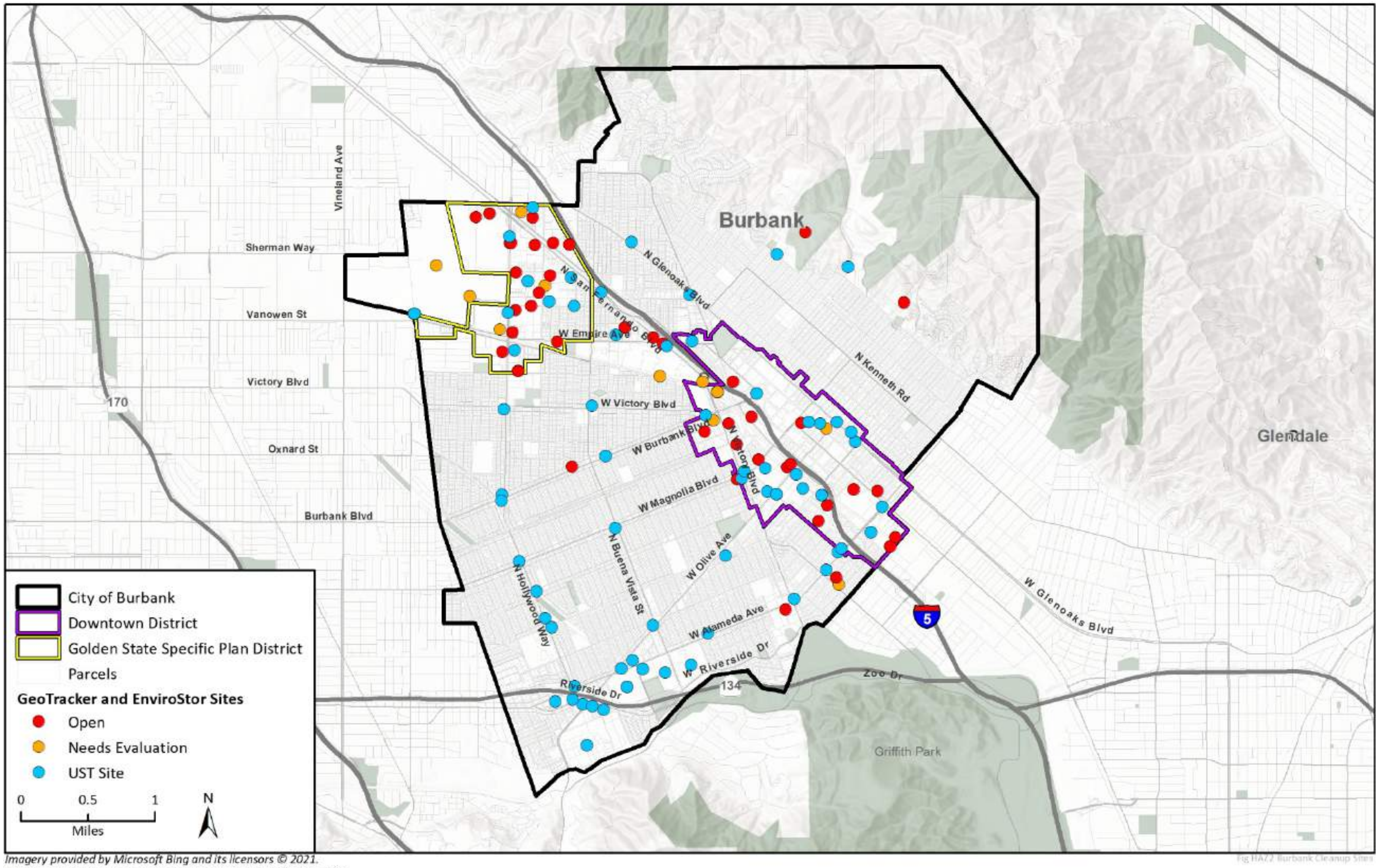
Permitted uses of hazardous materials include those facilities that use hazardous materials or handle hazardous wastes in accordance with current hazardous materials and hazardous waste regulations. The use and handling of hazardous materials from these sites is considered low risk, although there can be instances of unintentional chemical releases. In such cases, the site would be tracked in the environmental databases as an environmental case. Permitted sites without documented releases are, nevertheless, potential sources of hazardous materials in the soil and/or groundwater due to accidental spills, incidental leakage, or spillage that may have gone undetected. Some facilities are permitted for more than one hazardous material use and, therefore, could appear in more than one database.

The potential to encounter hazardous materials in soil and groundwater in the City is generally based on a search of Federal, State, and local regulatory databases that identify permitted hazardous materials uses, environmental cases, and spill sites. The DTSC EnviroStor database contains information on properties in California where hazardous substances have been released or where the potential for a release exists. The California State Water Resources Control Board (SWRCB) GeoTracker database contains information on properties in California for sites that require cleanup, such as leaking underground storage tank (LUST) sites, which may impact, or have potential impacts, to water quality, with emphasis on groundwater.

According to databases of hazardous material sites maintained by the DTSC (EnviroStor) and the SWRCB (GeoTracker), Burbank has the following types of hazardous sites that are still active or need further investigation: corrective action sites, military evaluation sites, State response sites, historical sites, tiered permit sites, Waste Discharge Requirements (WDR) sites, underground storage tanks (UST's) and cleanup program sites (DTSC 2021; SWRCB 2021). These sites are dispersed throughout the City.

Existing sites that may potentially contain hazardous land uses in the City include large and small-quantity generators of hazardous waste, such as metal fabricators, dry cleaners, gas stations and other industrial uses. According to DTSC and SWRCB, there are 41 open sites containing or potentially containing hazardous materials contamination located in the City, 15 sites in need of evaluation, 70 USTs, and numerous closed or “no further action” sites. A full list of these sites and their cleanup status can be reviewed in Appendix F (DTSC, SWRCB, 2021).

Figure 4.6-1 Burbank Hazardous Material Sites



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Additional data provided by Geotracker, 2021 and Envirostor, 2021.

Use, Transport, and Abatement of Hazardous Materials

The use of hazardous materials is typically associated with industrial land uses. Activities such as manufacturing, plating, cleaning, refining, and finishing, frequently involve chemicals that are considered hazardous when accidentally released into the environment.

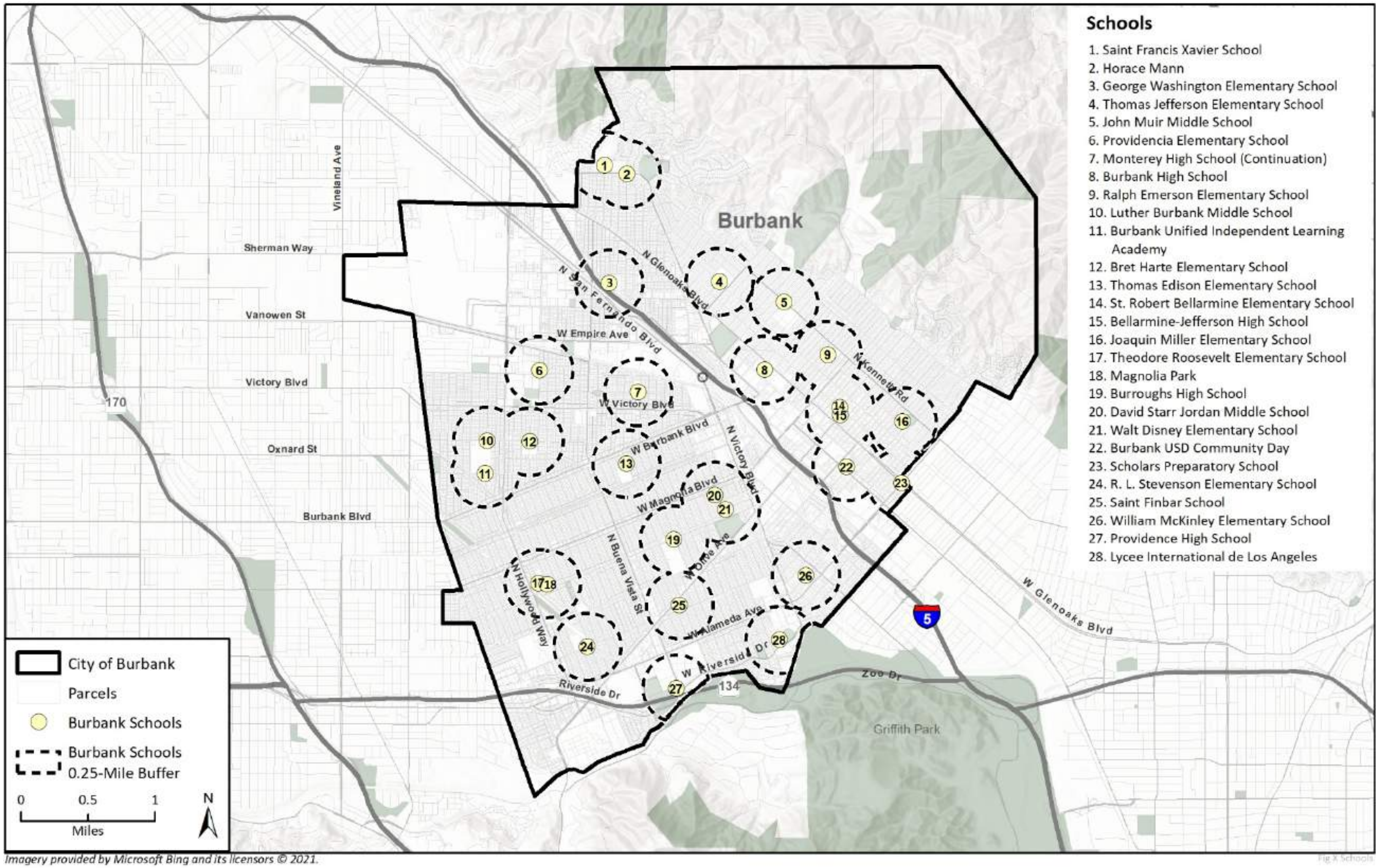
To a lesser extent, hazardous materials may also be used by various commercial enterprises, as well as residential uses. In particular, dry cleaners use cleaning agents considered to be hazardous materials. Hardware stores typically stock paints and solvents, as well as fertilizers, herbicides, and pesticides. Swimming pool supply stores stock acids, algaecides, and caustic agents. Most commercial businesses occasionally use commonly available cleaning supplies that, when used in accordance with manufacturers' recommendations, are considered safe by the State of California, but when not handled properly can be considered hazardous. Private residences also use and store commonly available cleaning materials, paints, solvents, swimming pool and spa chemicals, as well as fertilizers, herbicides, and pesticides.

If improperly handled, hazardous materials can result in public health hazards through human contact with contaminated soils or groundwater, or through airborne releases in vapors, fumes, or dust. There is also the potential for accidental or unauthorized releases of hazardous materials that would pose a public health concern. The use, transport, and disposal of hazardous materials and wastes are required to occur in accordance with Federal, State, and local regulations. In accordance with such regulations, the transport of hazardous materials and wastes can only occur with transporters who have received training and appropriate licensing. Additionally, hazardous waste transporters are required to complete and carry a hazardous waste manifest, which includes forms, reports, and procedures designed to seamlessly track hazardous waste.

Schools

School locations require consideration because children are particularly sensitive to hazardous materials exposure. Additional protective regulations apply to projects that could use or disturb potentially hazardous products near or at schools. The California Public Resources Code requires projects that would be located within 0.25 mile of a school and might reasonably be expected to emit or handle hazardous materials to consult with the school district regarding potential hazards. The Burbank Unified School District (BUSD) operates 22 schools in the City, including 11 elementary schools, three middle schools, three high schools, and five alternative schools (BUSD 2002). See Figure 4.6-2 for the locations of schools in the City. Numerous day care facilities, charter schools, and private schools are also located throughout the City.

Figure 4.6-2 Burbank Public School Locations



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4.6.2 Regulatory Setting

Hazardous materials and waste can pose a potential hazard to human health and the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Federal, State, and local programs that regulate the use, storage, and transportation of hazardous materials and hazardous waste are in place to prevent unwanted consequences. These regulatory programs are designed to reduce the risk that hazardous substances may pose to people and businesses under normal daily circumstances and as a result emergencies and disasters.

a. Federal

Primary Federal agencies with responsibility for hazardous materials management include the USEPA, U.S. Department of Labor's Occupational Safety and Health Administration (OSHA), and U.S. Department of Transportation (USDOT). The major federal laws enforced by these agencies are described below.

Comprehensive Environmental Response, Compensation, and Liability Act

Enacted in 1980, CERCLA, commonly known as Superfund, creates a tax on the chemical and petroleum industries and provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. The tax goes into a trust fund for cleaning up abandoned or uncontrolled hazardous waste sites. A summary of CERCLA is as follows:

- Establishes prohibitions and requirements concerning closed and abandoned hazardous waste sites;
- Provides for liability of persons responsible for releases of hazardous waste at these sites; and
- Establishes a trust fund to provide for cleanup when no responsible party could be identified.

CERCLA also established the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS). The CERCLIS database was renamed to Standardized Emergency Management System (SEMS) by USEPA in 2015. SEMS is the USEPA's system for tracking potential hazardous-waste sites within the Superfund program. In addition, CERCLA authorizes two kinds of response actions:

- Short-term removals, where actions may be taken to address releases or threatened releases requiring prompt response; and
- Long-term remedial response actions that permanently and significantly reduce the dangers associated with releases or threats of releases of hazardous substances that are serious, but not immediately life threatening. These actions can be conducted only at sites listed on the USEPA's NPL.

CERCLA also enabled the revision of the National Contingency Plan (NCP), which provides guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) of 1976 gives the USEPA the authority to control hazardous waste from "cradle-to-grave." This includes the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid wastes. The 1986 amendments to RCRA enabled USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Toxic Substances Control Act

Congress enacted the Toxic Substances Control Act (TSCA) of 1976, codified in Title 40 of the Code of Federal Regulations (CFR), to give USEPA the ability to track the 75,000 industrial chemicals currently produced or imported into the United States. USEPA repeatedly screens these chemicals and can require reporting or testing of those that may pose an environmental or human-health hazard. USEPA can ban the manufacture and import of those chemicals that pose an unreasonable risk. More specifically, in California, polychlorinated biphenyls (PCBs) are regulated by both State (RCRA and Title 22 of the California Code of Regulations [CCR]) and Federal (TSCA) rules. TSCA has banned the manufacture, processing, use, and distribution in commerce of PCBs. TSCA gives USEPA the authority to develop, implement and enforce regulations concerning the use, manufacture, cleanup, and disposal of PCBs. TSCA also establishes USEPA's Lead Abatement Program regulations, which provide a framework for lead abatement, risk assessment, and inspections. Those performing these services are required to be trained and certified by USEPA.[1]

U.S. Department of Transportation Regulations

USDOT prescribes strict regulations for the safe transportation of hazardous materials, including requirements for hazardous waste containers and licensed haulers who transport hazardous waste on public roads. The Secretary of the USDOT receives the authority to regulate the transportation of hazardous materials from the Hazardous Materials Transportation Act (HMTA), as amended and codified in 49 U.S. Code (U.S.C.) Section 5101 et seq. The Secretary is authorized to issue regulations to implement the requirements of 49 U.S.C. The Pipeline and Hazardous Materials Safety Administration (PHMSA), formerly the Research and Special Provisions Administration, was delegated the responsibility to write the hazardous materials regulations, which are contained in Title 49 of the CFR Parts 100-180. Title 49 of the CFR, which contains the regulations set forth by the HMTA, specifies requirements and regulations with respect to the transport of hazardous materials. It requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Under the HMTA, the Secretary "may authorize any officer, employee, or agent to enter upon, inspect, and examine, at reasonable times and in a reasonable manner, the records and properties of persons to the extent such records and properties relate to: (1) the manufacture, fabrication, marking, maintenance, reconditioning, repair, testing, or distribution of packages or containers for use by any "person" in the transportation of hazardous materials in commerce; or (2) the transportation or shipment by any "person" of hazardous materials in commerce."

Occupational Safety and Health Act of 1970

The U.S. Department of Labor's OSHA was created to assure safe and healthful working conditions by setting and enforcing standards and by providing training, outreach, education, and assistance. OSHA provides standards for general industry and construction industry on hazardous waste operations and emergency response. The Occupational Safety and Health Act, which is implemented by OSHA, contains provisions with respect to hazardous materials handling. Federal Occupational

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[1] U.S. Environmental Protection Agency, *40 CFR Park 745, Rules 402 and 404*, August 29, 1996.

Safety and Health Act requirements, as set forth in Title 29 of the CFR Section 1910, et. seq., are designed to promote worker safety, worker training, and a worker's right-to-know. OSHA has delegated the authority to administer OSHA regulations to the State of California.

Title 49 of the CFR, which contains the regulations set forth by the Hazardous Materials Transportation Act of 1975, specifies additional requirements and regulations with respect to the transport of hazardous materials. Title 49 of the CFR requires that every employee who transports hazardous materials receive training to recognize and identify hazardous materials and become familiar with hazardous materials requirements. Drivers are also required to be trained in function and commodity specific requirements.

Research and Special Programs Administration

The Research and Special Programs Administration's (RSPA) regulations cover definition and classification of hazardous materials, communication of hazards to workers and the public, packaging and labeling requirements, operational rules for shippers, and training. They apply to hazardous waste shipments and interstate, intrastate, and foreign commerce by air, rail, ships, and motor vehicles. The Federal Highway Administration (FHWA) is responsible for highway routing of hazardous materials and highway safety permits. The U.S. Coast Guard regulates bulk transport by vessel. The hazardous materials regulations include emergency response provisions, such as incident reporting requirements. Reports of major incidents go to the National Response Center, which in turn is linked with CHEMTREC, a service of the chemical manufacturing industry that provides details on most chemicals shipped in the United States.

Other Hazardous Materials Regulations

In addition to the USDOT regulations for the safe transportation of hazardous materials, there are other applicable federal laws that also address hazardous materials:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Atomic Energy Act
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

b. State

The primary State agencies with jurisdiction over hazardous chemical materials management are the California Environmental Protection Agency's (CalEPA's) DTSC and the Los Angeles Regional Water Quality Control Board (LARWQCB). Other State agencies involved in hazardous materials management include California OSHA (CalOSHA) and the State Office of Emergency Services (CalOES).

Authority for statewide administration and enforcement of RCRA rests with CalEPA's DTSC. While DTSC has primary State responsibility in regulating the generation, storage, and disposal of hazardous materials, DTSC may further delegate enforcement authority to local jurisdictions. In addition, DTSC is responsible and/or provides oversight for contamination cleanup and administers statewide hazardous waste reduction programs. DTSC operates programs to accomplish the following: (1) manage the aftermath of improper hazardous waste management by overseeing site cleanups; (2) prevent releases of hazardous waste by ensuring that those who generate, handle, transport, store, and dispose of wastes do so properly; and (3) evaluate soil, water, and air samples taken at sites.

The storage of hazardous materials in USTs is regulated by the SWRCB, which delegates authority to the Regional Water Quality Control Board (RWQCB) on the regional level, and typically to the local fire department on the local level.

The Cal OSHA program is administered and enforced by the Division of Occupational Safety and Health (DOSH). CalOSHA is similar to the federal OSHA program. Both programs contain rules and procedures related to exposure to hazardous materials during demolition and construction activities. In addition, CalOSHA requires employers to implement a comprehensive, written Injury and Illness Prevention Program (IIPP). An IIPP is an employee safety program for potential workplace hazards, including those associated with hazardous materials.

The CalOES Hazardous Materials (HazMat) section under the Fire and Rescue Division coordinates statewide implementation of hazardous materials accident prevention and emergency response programs for all types of hazardous materials incidents and threats. In response to any hazardous materials emergency, the HazMat section staff is called upon to provide State and local emergency managers with emergency coordination and technical assistance.

California Occupational Safety and Health Act – California Labor Code, Section 6300 et seq.

The California Occupational Safety and Health Act of 1973 addresses California employee working conditions, enables the enforcement of workplace standards, and provides for advancements in the field of occupational health and safety. The Act also created CalOSHA, the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. CalOSHA's standards are generally more stringent than federal regulations. Under the former, the employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure. The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings. At sites known or suspected to be contaminated by hazardous materials, workers must have training in hazardous materials operations and a Site Health and Safety Plan must be prepared. The Health and Safety Plan establishes policies and procedures to protect workers and the public from exposure to potential hazards at the contaminated site.

California Code of Regulations, Title 22, Hazardous Waste Management

At the State level, under Title 22, Division 4.5 of the CCR, CalEPA's DTSC regulates hazardous waste in California primarily under the authority of the Federal RCRA and the California Health and Safety Code (HSC). The Hazardous Waste Control Law (HWCL), under CCR 22, Chapter 30, establishes regulations that are similar to RCRA but more stringent in their application and empowers the DTSC to administer the State's hazardous waste program and implement the federal program in California. The DTSC is responsible for permitting, inspecting, ensuring compliance, and imposing corrective action programs to ensure that entities that generate, store, transport, treat, or dispose of potentially hazardous materials and waste comply with federal and State laws. The DTSC defines hazardous waste as waste with a chemical composition or other properties that make it capable of causing illness, death, or some other harm to humans and other life forms when mismanaged or released into the environment.

The DTSC shares responsibility for enforcement and implementation of hazardous waste control laws with the SWRCB and, at the local level, the Regional Water Quality Control Board, and city and county governments.

California Code of Regulations Title 23, Chapter 15 Discharges of Hazardous Waste to Land Section 2511(b)

CCR 23, Chapter 15 Discharges of Hazardous Waste to Land Section 2511(b) pertains to water quality aspects of waste discharge to land. The regulation establishes waste and site classifications as well as waste management requirements for waste treatment, storage, or disposal in landfills, surface impoundments, waste piles, and land treatment facilities. Requirements are minimum standards for proper management of each waste category, which allows Regional Water Boards to impose more stringent requirements to accommodate regional and site-specific conditions. In addition, the requirements of CCR 23, Chapter 15 applies to cleanup and abatement actions for unregulated hazardous waste discharges to land (e.g., spills).

License to Transport Hazardous Materials – California Vehicle Code, Section 32000.5 et seq.

The California Department of Transportation (Caltrans) regulates hazardous materials transportation on all interstate roads. Within California, the State agencies with primary responsibility for enforcing Federal and State regulations and for responding to transportation emergencies are the California Highway Patrol and Caltrans. Together, Federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications for vehicles transporting hazardous materials.

California Fire Code, Title 24, Part 9

The 2019 California Fire Code, written by the California Building Standards Commission, is based on the 2018 International Fire Code (IFC). The IFC is a model code that regulates minimum fire safety requirements for new and existing buildings, facilities, storage, and processes. The IFC addresses fire prevention, fire protection, life safety, and safe storage and use of hazardous materials in new and existing buildings, facilities, and processes.

c. Regional

South Coast Air Quality Management District Rule 1403

South Coast Air Quality Management District (SCAQMD) Rule 1403 establishes asbestos survey requirements, notification, and work practice requirements to prevent asbestos emissions from emanating during building renovation and demolition activities. Rule 1403 incorporates the requirements of the federal asbestos requirements found in the National Emission Standards for Hazardous Air Pollutants (NESHAP) found in CFR Title 40, Part 61, Subpart M. USEPA has delegated SCAQMD the authority to enforce the Federal asbestos NESHAP, and SCAQMD is the local enforcement authority for asbestos.

d. Local

In Burbank, the local Certified Unified Program Agency (CUPA) is Los Angeles County CUPA, which is managed by the Los Angeles County Fire Department Health Hazardous Materials Division (HHMD).

The City of Burbank Fire Department oversees UST and piping removal per the City of Burbank Municipal Code.

Health Risk Assessment Regulatory Oversight

Regulatory agencies such as the USEPA, DTSC, and Office of Environmental Health Hazard Assessment OEHHA set forth guidelines that list concentration thresholds over which contaminants may pose a risk to human health. The USEPA combines current toxicity values of contaminants with exposure factors to estimate concentrations of contaminants that may pose a risk to human health. The concentrations set forth by the USEPA are termed Regional Screening Levels (RSL) for various pollutants in soil, air, and tap water (USEPA, 2020). RSL concentrations can be used to screen pollutants in environmental media, trigger further investigation, and provide an initial cleanup goal. RSLs for soil contamination have been developed for both industrial and residential land uses. Residential RSLs are more conservative than industrial RSLs and take into account the possibility of the contaminated environmental media coming into contact with sensitive receptor sites such as childcare facilities and schools. RSLs consider exposure to pollutants by means of ingestion, dermal contact, and inhalation.

Groundwater Regulatory Oversight

The DTSC has set forth Screening Levels (DTSC-SLs) for select contaminants in soil, indoor air, and tap water based on values calculated using Cal-EPA toxicity criteria and risk assessment procedures. While the majority of the DTSC-SLs reflect RSL values, some values are more conservative (DTSC, 2020). Both the U.S. EPA and the California Department of Health Services (DHS) promulgate regulations with respect to the concentration of various chemicals in drinking water. The DHS thresholds for drinking water are generally stricter than those set by the U.S. EPA. Primary maximum contaminant levels (CalMCLs) are established for a number of chemical and radioactive contaminants (Title 22, Division 4, Chapter 15, CCR) in groundwater. CalMCLs are often used by regulatory agencies to determine cleanup standards when contaminants affect groundwater with beneficial uses or potential beneficial uses as drinking water aquifers.

The SWRCB and LARWQCB regulate water quality in the State of California pursuant to statutory requirements set forth in the Porter-Cologne Water Quality Control Act (Cal. Water Code, Section 13000 et seq.), including oversight of water monitoring and contamination cleanup and abatement.

4.6.3 Impact Analysis

a. Thresholds of Significance

Thresholds of significance are based on the questions in Appendix G of the CEQA Guidelines. The Initial Study prepared for the Project (Appendix B) determined that a potentially significant impact might occur under the following threshold and therefore are analyzed in this section of the EIR.

1. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
2. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school
3. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment

4. For a project located in 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, the project would result in a safety hazard or excessive noise for people residing or working in the project area
5. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
6. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires

The Initial Study (Appendix B) determined that the Project could result in potentially significant impacts related to above issues related to hazards. As such, an analysis of these issues is included in this section of the EIR. However, the Initial Study found no potentially significant impacts related to the transport of hazardous materials (Threshold 6) or wildland fires (Threshold 7); therefore, these issues are not studied further herein.

b. Methodology

This impact analysis addresses the potential to encounter hazardous substances during future Project construction in the City and the potential to create a significant hazard to the public or the environment. The evaluation was performed based on current conditions in the City, information in environmental databases, applicable regulations and guidelines, and future development that may have the potential to introduce hazards. Relationships and proximities of potential future development to schools were also identified.

c. Project Impacts

Threshold 1: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Threshold 2: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Impact HAZ-1 DEMOLITION AND CONSTRUCTION ACTIVITIES ASSOCIATED WITH DEVELOPMENT ACCOMMODATED BY THE HOUSING ELEMENT UPDATE MAY RESULT IN THE RELEASE OF POTENTIALLY HAZARDOUS MATERIALS AND MAY OCCUR WITHIN 0.25 MILE OF A SCHOOL. HOWEVER, COMPLIANCE WITH REGIONAL AND FEDERAL REGULATIONS RELATED TO HAZARDOUS MATERIALS AND COMPLIANCE WITH THE SAFETY ELEMENT POLICIES WOULD MINIMIZE THE RISK OF RELEASES AND EXPOSURE TO THESE MATERIALS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

The Housing Element Update would accommodate infill housing and mixed use (residential-commercial) development in urbanized areas of the City. This is accomplished through policies and specifically through the proposed rezoning, all of which would occur in existing developed areas.

Infill development under the Housing Element Update would likely involve demolition of existing structures. Demolition could result in emission of lead and asbestos. However, lead-based materials and asbestos exposure are regulated by the California Occupational Safety and Health

Administration (Cal OSHA). CCR Section 1532.1 requires testing, monitoring, containment, and disposal of lead-based materials such that exposure levels do not exceed Cal OSHA standards. Under this rule, construction workers (and by extension, neighboring properties) may not be exposed to lead at concentrations greater than 50 micrograms per cubic meter of air averaged over an eight-hour period and exposure must be reduced to lower concentrations if the workday exceeds eight hours. Similarly, CCR Section 1529 sets requirements for asbestos exposure assessments and monitoring, methods of complying with exposure requirements, safety wear, communication of hazards, and medical examination of workers.

The control of asbestos during demolition or renovation of buildings is regulated under the Federal Clean Air Act. The Federal Clean Air Act requires a thorough inspection for asbestos where demolition will occur and specifies work practices to control emissions, such as removing all asbestos-containing materials, adequately wetting all regulated asbestos-containing materials, sealing the material in leak tight containers and disposing of the asbestos-containing waste material as expediently as practicable (USEPA 2021a). Compliance with the CCR and Federal Clean Air Act, which is mandatory, would reduce the potential hazards and risks associated with release of lead and asbestos to a less than significant level. In addition, any development projects under the Housing Element Update that include demolition or renovation activities would be required to comply with SCAQMD Rule 1403. Building permits will not be issued prior to elimination of asbestos and compliance with all applicable regulations.

Rezoning for the proposed Project would include 3,561 residential units with 1.4 million square feet (sf) of commercial space. Housing and other residential uses do not utilize hazardous materials, and thereby pose little risk of exposing the public to hazardous materials. Commercial uses would be subject to compliance with CCR, Cal OSHA, and other agencies to ensure hazardous materials risks to the public are minimized as well. In addition, one of the proposed new policies included in the update to the Safety Element is to “Reduce the loss of life, property, and injures incurred as a result of hazardous materials spills by offering comprehensive spill prevention information to businesses using hazardous materials, public education, and emergency response programs. Focus outreach and emergency response on vulnerable populations.” (City of Burbank, 2013) This policy calls for the development of public educational materials, prevention plans and emergency response plans for hazardous materials spills in coordination with the Los Angeles County Fire Health HazMat Division, LA County Department of Public Health Environmental Health Services Division, and Burbank Fire Department as part of the next Hazard Mitigation Plan update. This addition to the Safety Element would further prepare the City, and protect the public, in the event of an accidental spill or exposure.

The Housing and Safety Element Update does not include specific development projects, however, the proposed project seeks to update numerous zoning districts from Manufacturing uses to Residential or Commercial uses, thereby reducing the potential for businesses using hazardous materials to occur within 0.25 mile of Burbank’s existing schools (shown in Figure 4.6-1and Figure 4.6-2).

Furthermore, hazardous materials and waste generated from future development would not pose a health risk to nearby schools because the majority of the development would be residential which does not handle or emit hazardous materials or substances. Additionally, any businesses that would be developed in the proposed mixed use commercial areas that handle or have on-site storage of hazardous materials would be required to comply with the provisions of the California Fire Code and the HHMD CUPA requirements set forth in the California Health and Safety Code through review and approval of a business plan by the Burbank Fire Department, Division 20, Chapter 6.95, Articles

1 and 2. As described in the *Regulatory Setting* above, all businesses that handle more than a specified amount of hazardous materials are required to submit a hazardous materials business plan to a regulating agency, in this case, the HHMD. Therefore, future development facilitated by the proposed Project would not result in use of new hazardous material use within a 0.25-mile radius of existing public and private schools in Burbank, and impacts would be less than significant.

Implementation of the updated Burbank2035 General Plan Safety Element policies would minimize risks associated with the accidental release of hazardous materials during operation of the residential and commercial spaces. Additionally, compliance with all other appropriate federal, State, and local agencies (such as CCR and Cal OSHA) would minimize the risk of the public's potential exposure to these materials. Therefore, impacts to the public or the environmental through accidental release or exposure to hazardous materials as a result of project implementation would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 3: Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Impact HAZ-2 **IMPLEMENTATION OF THE HOUSING AND SAFETY ELEMENT UPDATE WOULD ACCOMMODATE DEVELOPMENT ON OR NEAR HAZARDOUS MATERIALS SITES. HOWEVER, COMPLIANCE WITH APPLICABLE REGULATIONS RELATING TO SITE CLEANUP WOULD MINIMIZE HAZARDS FROM DEVELOPMENT ON CONTAMINATED SITES. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

As mentioned in the *Environmental Setting*, there are existing sites within City limits (shown in Figure 4.6-1) which contain, or potentially contain, contaminated or hazardous materials. A full list of these sites and their cleanup status can be reviewed in Appendix F (DTSC, 2021).

The Housing Element Update would not directly result in project development, since it is a policy document. However, new development facilitated by the Housing Element Update could expose construction workforce as well as future occupants to hazardous materials if the project site is listed for hazardous materials. It is also possible that USTs in use prior to permitting and record keeping requirements may be present in the City. If an unidentified UST were uncovered or disturbed during construction activities, it would be removed under permit by the HHMD; if such removal would potentially undermine the structural stability of existing structures, foundations, or impact existing utilities, the tank might be closed in place without removal. Tank removal activities could pose both health and safety risks, such as the exposure of workers, tank handling personnel, and the public to tank contents or vapors. Potential risks, if any, posed by USTs would be minimized by managing the tank according to existing standards contained in Division 20, Chapters 6.7 and 6.75 (Underground Storage Tank Program) of the California Health and Safety Code as enforced and monitored by the HHMD.

The extent to which groundwater may be affected by an underground tank, if at all, depends on the type of contaminant, the amount released, the duration of the release, and depth to groundwater. If groundwater contamination is identified during Phase I or II ESA, characterization of the vertical and lateral extent of the contamination and remediation activities would be required by the RWQCB prior to the commencement of any new construction activities that would disturb the subsurface. If contamination exceeds regulatory action levels, the developer would be required to undertake remediation procedures prior to grading and development under the supervision of the RWQCB, depending upon the nature of any identified contamination. Compliance with existing State and local regulations as well as implementation of the Burbank2035 General Plan policies would reduce impacts to less than significant.

Mitigation Measures

HAZ-2 Property Assessment – Phase I and II ESAs

Prior to the start of construction (demolition or grading), the project applicant will retain a qualified environmental professional (EP), as defined by ASTM E-1527, to complete one of the following.

If the project is not listed in Appendix F, DTSC (GeoTracker) or SWRCB (EnviroStor) resources, and requires more than five feet of excavation, then the proponent will retain a qualified environmental consultant, California Professional Geologist (PG) or California Professional Engineer (PE), to prepare a Phase I ESA. If the Phase I ESA identifies recognized environmental conditions or potential concern areas, a Phase II ESA will be prepared.

If the project site is currently listed, previously listed, or un-listed with a regulatory closure or no further action letter in Appendix F, DTSC (GeoTracker) or SWRCB (EnviroStor) resources, then the project proponent shall test to confirm that there are no existing hazardous materials posing a risk to human health. The project proponent shall retain a qualified environmental consultant, California Professional Geologist (PG) or California Professional Engineer (PE), to prepare a Phase II ESA to determine whether the soil, groundwater, and/or soil vapor has been impacted at concentrations exceeding regulatory screening levels for commercial/industrial land uses. Any and all recommended actions included in the Phase II ESA will be followed. This may include the preparation of a Soil Management Plan (SMP) for Impacted Soils (see below) prior to project construction and/or completion of remediation at the proposed project prior to onsite construction.

The completed ESAs will be submitted to the lead agency for review and approval prior to issuance of building or grading permits.

Soil Management Plan Requirements: The SMP, or equivalent document, will be prepared to address on-site handling and management of impacted soils or other impacted wastes, and reduce hazards to construction workers and offsite receptors during construction. The plan will be submitted to the lead agency, and must establish remedial measures and/or soil management practices to ensure construction worker safety, the health of future workers and visitors, and the off-site migration of contaminants from the site. These measures and practices may include, but are not limited to:

- Stockpile management including stormwater pollution prevention and the installation of BMPs
- Proper disposal procedures of contaminated materials
- Monitoring and reporting
- A health and safety plan for contractors working at the site that addresses the safety and health hazards of each phase of site construction activities with the requirements and procedures for employee protection
- The health and safety plan will also outline proper soil handling procedures and health and safety requirements to minimize worker and public exposure to hazardous materials during construction.

The lead agency will review and approve the development site Soil Management Plan for Impacted Soils prior to demolition and grading (construction).

Soil Remediation Requirements: If soil present within the construction envelope at the development site contains chemicals at concentrations exceeding hazardous waste screening thresholds for contaminants in soil (California Code of Regulations [CCR] Title 22, Section 66261.24), the project proponent will retain a qualified environmental consultant (PG or PE), to conduct additional analytical testing and recommend soil disposal recommendations, or consider other remedial engineering controls, as necessary.

The qualified environmental consultant will utilize the development site analytical results for waste characterization purposes prior to offsite transportation or disposal of potentially impacted soils or other impacted wastes. The qualified environmental consultant will provide disposal recommendations and arrange for proper disposal of the waste soils or other impacted wastes (as necessary), and/or provide recommendations for remedial engineering controls, if appropriate.

The project applicant will review and approve the disposal recommendations prior to transportation of waste soils offsite, and review and approve remedial engineering controls, prior to construction.

Remediation of impacted soils and/or implementation of remedial engineering controls, may require additional delineation of impacts; additional analytical testing per landfill or recycling facility requirements; soil excavation; and offsite disposal or recycling.

The lead agency will review and approve the development site disposal recommendations prior to transportation of waste soils offsite and review and approve remedial engineering controls, prior to construction.

Significance After Mitigation

Mitigation Measure HAZ-2 requires that any development that requires more than five feet of excavation would require a Phase I ESA, and a Phase II ESA if environmental concerns are discovered through the Phase I ESA. Additionally, this measure ensures that any potential development site location listed on DTSC or SWRCB (Appendix F) conducts a Phase II ESA for soil sampling and environmental professional recommendations for remediation, as needed. Implementation of Mitigation Measure HAZ-2 would reduce potential impacts to a less than significant level.

Threshold 4: 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?

Impact HAZ-3 **THE BURBANK2035 GENERAL PLAN INCLUDES A SAFETY ELEMENT UPDATE AND POLICIES FOR THE BURBANK AIRPORT INFLUENCE AREA THAT ADDRESS EXCESSIVE NOISE AND SAFETY FOR THE VICINITY. THEREFORE, THE PROPOSED PROJECT WOULD NOT RESULT IN SAFETY HAZARDS OR EXCESSIVE NOISE FOR PEOPLE RESIDING OR WORKING IN THE PROJECT AREA AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

The Burbank2035 General Plan Safety Element outlines safety policies for the Hollywood-Burbank Airport Influence Area and includes noise policies for its potentially affected vicinity, which are further discussed in Section 4.7, *Noise*. As shown in Figure 2-3, the proposed Project includes rezoning within the Burbank Airport Influence Area of the City. In particular, one of the potential Golden State Specific Plan Sites (the 678-unit Valhalla site) falls within the Airport Influence Area, and therefore would be required to comply with the Burbank2035 General Plan policies, the Los

Angeles County Airport Land Use Plan (LACALUP), and any other local or regional regulations as they pertain to development in this area.

Safety hazards associated with airports are generally related to the construction of tall structures that could interfere with flight paths, or with increasing the number of people working or residing in potential crash zones. The Airport Influence Area is defined by the LACALUP, and is the area in which noise, overflight, safety, or airspace protection factors may affect land uses or require restrictions on those uses. The LACALUP identified the Approach Surface and the Runway Protection Zone as two such safety zones requiring use restrictions (LACALUP 2004). The updated Burbank2035 Safety Element requires compliance with the LACALUP and provides policies such as Policy 7.2, which ensures that land uses, densities, and building heights within Airport Land Use Compatibility Zones, including those in disadvantaged communities, are compatible with safe operation of the Hollywood Burbank Airport. Therefore, implementation of the proposed Project would not result in safety hazards in the airport vicinity.

Threshold 5: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Impact HAZ-4 THE BURBANK2035 GENERAL PLAN AND HOUSING AND SAFETY ELEMENT POLICY UPDATES ADDRESS MAINTAINING A LOCAL HAZARD MITIGATION PLAN AND COORDINATION WITH ADJACENT JURISDICTIONS. ADDITIONALLY, TRAFFIC CREATED BY THE PROPOSED REZONING WOULD NOT INTERFERE WITH AN EVACUATION PLAN OR CAUSE INCREASED TRAFFIC CONGESTION. THEREFORE, THE PROPOSED PROJECT WOULD NOT RESULT IN INTERFERENCE WITH THESE TYPES OF ADOPTED PLANS. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As discussed in Section 4.11*, Transportation*, development facilitated by the proposed Project would accommodate future population growth and would increase vehicle miles traveled in the City, which could lead to increased congestion during emergency evacuations. However, future developments would be reviewed by City staff to ensure consistency with all applicable City and State design standards and emergency access requirements and plans. In addition, the following policies are included in the updated language to Burbank2035 General Plan Safety Element, which are intended to ensure effective and coordinated response to disasters and further the City's preventative measures.

Policy 1.1: Regularly update all hazard mitigation plans, disaster preparedness plans, and emergency response plans.

Policy 1.3: Sponsor and support public education programs for emergency preparedness and disaster response.

The City has also prepared an All-Hazard Mitigation Plan (AHMP, last updated in 2011) that has been incorporated into the Burbank2035 General Plan Safety Element and is currently being updated. The AHMP assesses risk from natural disasters, transportation-related accidents and losses, terrorism and weapons of mass destruction, utility loss or disruption, water and wastewater disruption, hazardous materials incidents, aviation disasters, information technology loss or disruption, explosions, economic disruption, and other special events (AHMP, 2011). The primary objective of the AHMP is to provide a mitigation plan that reduces the negative impacts of potential future disasters on the City, and meets FEMA requirements by addressing hazards, vulnerability, and risk. For example, Chapter 11, *Drought*, of the AHMP includes an overview and variability analysis of the City's water system, historical drought information and impacts, probability of future droughts and vulnerability analysis, and initiatives (such as the 2007 Recycled Water Master Plan), mitigation strategies and action items that would aid the City's response and recovery in the event of a serious drought. The AHMP's use of historical data and scenario analysis to help predict and recommend proper recovery strategies provides detailed, realistic emergency planning measures. The Burbank2035 General Plan Safety Element, and the AHMP therein, provide ample emergency response guidelines and planning; therefore, development accommodated under the Housing Element Update would not result in interference with the adoption of these types of plans.

The Burbank Fire Department (BFD) provides fire and emergency response services. BFD assists in on-site emergency and command center management, and general fire and medical emergency assistance. They also provide an online public platform and alert system (Burbank Community Alerts) to help circulate information to Burbank residents in case of emergency, family preparedness plans in case of emergency, updates for COVID-19, and the AHMP update (BFD, 2021). The BFD's established, community platform offers additional opportunity to circulate adopted emergency response and evacuation plans. Implementation of the Burbank2035 General Plan policies, including the AHMP, and other programs associated with emergency planning and response would ensure that development under the Housing Element Update would result in less than significant impacts related to implementation of adopted emergency response and evacuation plans.

Mitigation Measures

No mitigation measures are required.

4.6.4 Cumulative Impacts

Cumulative development would consist of the Project as well as additional projects proposed within the City of Burbank. Cumulative development could contribute to an increase in hazards related to the use of, and exposure to, hazardous materials. Implementation of the Burbank2035 General Plan Safety Element would help guide and accommodate the projected growth within the City of Burbank and utilize updated policies to ensure safety in Burbank communities. Rezoning for the Project seeks to update numerous zoning districts from Manufacturing uses to Residential or Commercial uses.

The removal of manufacturing uses would cumulatively reduce the risk for businesses utilizing hazardous materials to occur within proximity to residences. However, any demolition of existing structures could potentially expose additional residents to hazardous materials. Implementation of the updated Burbank2035 General Plan Safety Element policies would minimize risks associated with the accidental release of hazardous materials during operation of the residential and commercial spaces and would require compliance with the All-Hazard Mitigation Plan and LACALUP. Compliance with these plans and policies would reduce any potential hazards related to project development in the vicinity of the Airport Influence Area. Additionally, compliance with all other appropriate Federal, State, and local agencies (such as CCR and Cal OSHA) would minimize the risk of the public's potential exposure to these materials. Therefore, impacts to the public or the environmental through accidental release or exposure to hazardous materials as a result of project implementation would be less than significant.

Existing hazardous materials sites in the City (Figure 4.6-1) could potentially be impacted if development is proposed on a previously-identified site or if the site is within 0.25-mile of a school. However, implementation of Mitigation Measures HAZ-2 would ensure that impacts related to close proximity to hazardous materials sites would be less than significant by requiring added site assessment and cleanup measures prior to project construction.

Compliance with existing laws and regulations, and implementation of these measures, would ensure that the implementation of the proposed Project would not contribute to cumulatively considerable impacts related to hazards or hazardous materials. Therefore, implementation of the Project would have an incremental contribution to cumulative impacts associated with hazards and hazardous materials but would not be cumulatively considerable. Cumulative impacts would be less than significant.

4.7 Noise

This section evaluates noise and groundborne vibration impacts resulting from the construction and operation of new housing development accommodated by the Housing Element Update. Topics addressed consist of short-term construction and long-term operational noise and vibration, including the exposure of noise-sensitive receivers to substantial or incompatible noise levels. Noise modeling results and the vibration calculations associated with the analysis herein are included in Appendix G to this EIR.

4.7.1 Environmental Setting

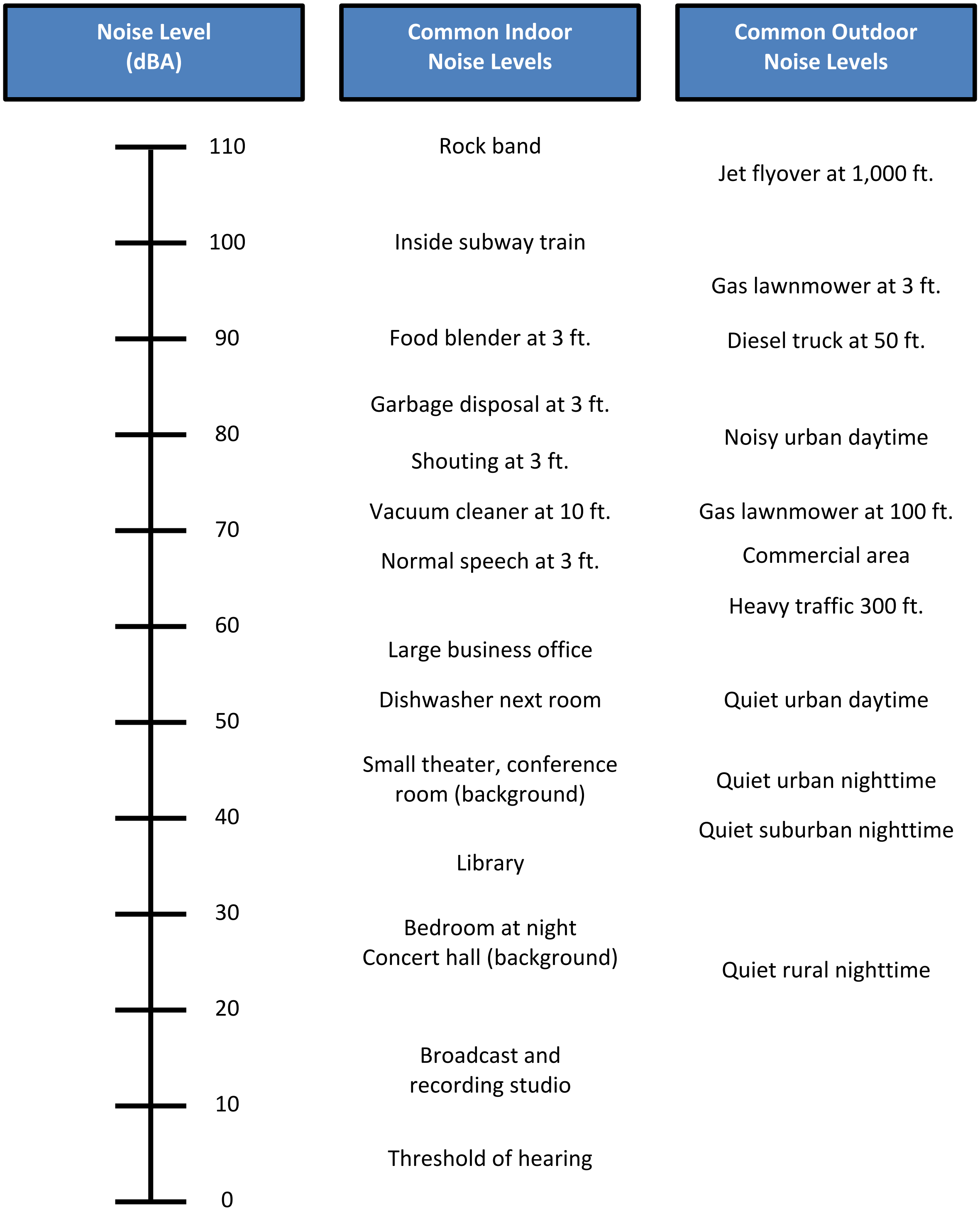
a. Fundamentals of Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs (e.g., the human ear). Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (California Department of Transportation [Caltrans] 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response, which is most sensitive to frequencies around 4,000 Hertz (Hz) and less sensitive to frequencies around and below 100 Hz (Kinsler, et. al. 1999). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as a doubling of traffic volume, would increase the noise level by 3 dB; similarly, dividing the energy in half would result in a decrease of 3 dB (Crocker 2007). Common outdoor and indoor noise sources and their typical corresponding A-weighted noise levels are shown in Figure 4.7-1.

Human perception of noise has no simple correlation with sound energy. The perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive an increase (or decrease) of up to 3 dBA in noise levels (i.e., twice [or half] the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (or half) as loud (10.5 times the sound energy) (Crocker 2007).

Figure 4.7-1 Examples of Typical Noise Levels



Source: Caltrans 2013

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in sound level as the distance from the source increases. The manner by which noise declines with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, ventilation units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result simply from the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013).

Noise levels may also be reduced by intervening structures. The amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5 dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2011). Structures can substantially reduce occupants’ exposure to noise as well. The FHWA’s guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows.

Descriptors

The impact of noise is not a function of loudness alone. The time of day when noise occurs, its frequency, and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed.

One of the most frequently used noise metrics that considers both duration and intensity is the equivalent noise level (L_{eq}). The L_{eq} is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time. Typically, L_{eq} is equivalent to a one-hour period, even when measured for shorter durations as the noise level of a 10- to 30-minute period would be the same as the hour if the noise source is relatively steady. L_{max} is the highest Root Mean Squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period (Crocker 2007). Normal conversational levels at three feet are in the 60- to 65-dBA L_{eq} range and ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that which occurs during the day. Community noise is usually measured using Day-Night Average Level (L_{dn} or DNL), which is a 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours, or Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by DNL and CNEL usually differ by about 0.5 dBA. Quiet suburban areas typically have a CNEL in the range of 40 to 50 dBA, while areas near arterial streets are typically in the 50 to 70+ CNEL range.

Propagation

Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of approximately 6 dBA for each doubling of distance.

Traffic noise is not a single, stationary point source of sound. Rather, the movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point. The drop-off rate for a line source is approximately 3 dBA for each doubling of distance.

b. Fundamentals of Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of hertz (Hz). The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body starts from a low frequency of less than 1 Hz and goes to a high of about 200 Hz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Descriptors

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or RMS vibration velocity. The PPV and RMS velocity are normally described in inches per second (in./sec.). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020).

Response to Vibration

Vibration associated with construction has the potential to be an annoyance to nearby land uses. Caltrans has developed limits for the assessment of vibrations from transportation and construction sources. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts. As shown in Table 4.7-1 and Table 4.7-2, the Caltrans *Transportation and Construction Vibration Guidance Manual* (2020) identifies guideline impact criteria for damage to buildings and additional impact criteria for annoyance to humans from transient and continuous/frequent sources.

Table 4.7-1 Building Vibration Damage Potential

	Maximum PPV (in./sec.)	
Structure and Condition	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Extremely fragile historic buildings, ruins, ancient mountains	0.12	0.08
Fragile buildings	0.20	0.10
Historic and similar old buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial/commercial buildings	2.00	0.50

Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls (i.e., a loose steel ball that is dropped onto structures or rock to reduce them to a manageable size). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity; in./sec. = inches per second

Source: Caltrans 2020

Table 4.7-2 Vibration Annoyance Potential

	Maximum PPV (in./sec.)	
Human Response	**Transient Sources**	**Continuous/Frequent Intermittent Sources**
Barely perceptible	0.04	0.01
Distinctly perceptible	0.25	0.04
Strongly perceptible	0.90	0.10
Severe	2.00	0.40

Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls (i.e., a loose steel ball that is dropped onto structures or rock to reduce them to a manageable size). Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

PPV = peak particle velocity; in./sec. = inches per second

Source: Caltrans 2020

Propagation

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Variability in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020). When a building is exposed to vibration, a ground-to-foundation coupling loss (the loss that occurs when energy is transferred from one medium to another) will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may amplify the vibration level due to structural resonances of the floors and walls.

c. Sensitive Receivers

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. According to the Burbank2035 General Plan Noise Element, residential areas, hospitals, convalescent and day care facilities, schools, and libraries are considered noise-sensitive uses (City of Burbank 2013).

Vibration-sensitive receivers, which are similar to noise-sensitive receivers, include residences and institutional uses, such as hospitals, schools, and churches. However, vibration-sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment that is affected by vibration levels that may be well below those associated with human annoyance (e.g., recording studies or medical facilities with sensitive equipment). Other uses that may have particular sensitivity to groundborne vibration include historic sites and structures.

The city encompasses 17.1 square miles and consists of a mix of urban uses (i.e., residential, civic, commercial, media, industrial, and open space). According to the Burbank2035 General Plan Land Use Element, the city predominantly consists of land that is designated and zoned for residential purposes, totaling approximately 36 percent of the city's acreage (City of Burbank 2013). Therefore, residential uses comprise most of the sensitive receivers in the city. Other sensitive receivers consist of recreational uses (e.g., parks) and some commercial/retail (e.g., motels, hotels, movie studios) and institutional (e.g., schools, hospitals) uses. Also, refer to Section 4.3, *Cultural Resources/Tribal Cultural Resources*, for a discussion of historic properties in the city, which may be particularly sensitive to increases in groundborne vibration levels.

d. Existing Conditions

Noise Sources

Burbank is affected by a variety of noise sources, including mobile and stationary sources. According to the Burbank2035 General Plan Noise Element, the most prevalent noise source in the city is traffic on the freeways and arterials. Interstate 5 (I-5) bisects the city from north to south and the State Route 134 (SR 134) passes through the southern end of the city. Many arterial roadways (e.g., Glenoaks Boulevard, Olive Avenue, Burbank Boulevard, Hollywood Way) traverse almost all areas of the city. Periodic noise sources include train traffic (i.e., Amtrak, Metrolink, freight trains); aircraft operations into and out of the Hollywood Burbank Airport (formerly known as Bob Hope Airport); trucks and machinery within industrial areas (located primarily along the I-5 corridor); and loading docks or other mechanical equipment at retail centers. Furthermore, movie studio noise is a stationary source unique to the southern portion of the city and typically consists of single, periodic events that last for a specific time period, rather than continuously (City of Burbank 2013).

The General Plan Noise Element includes noise contours that have been estimated using information about both current and projected future land uses and traffic volumes throughout the city.[1] Figure 4.7-2 identifies modeled noise contours for baseline year 2010. In addition to traffic volumes, railroad and aircraft operations also represent major noise sources in certain parts of Burbank. Figure 4.7-3 displays anticipated changes in noise levels associated with future growth accompanied by an increase in citywide traffic volumes for the year 2035. Roadway segments anticipated to experience the greatest increase in noise levels consist of Olive Avenue between Hollywood Way and Riverside Drive (3 CNEL increase), Empire Avenue between Victory Boulevard and Hollywood Way (4 CNEL increase), and First Street between Magnolia Boulevard and San Fernando Boulevard (3 CNEL increase). Furthermore, Figure 4.7-4 identifies the Hollywood Burbank Airport (identified as the Bob Hope Airport on the figure) planning boundary and Airport Influence Area, which is consistent with the airport's 65 CNEL contour. This airport noise contour represents

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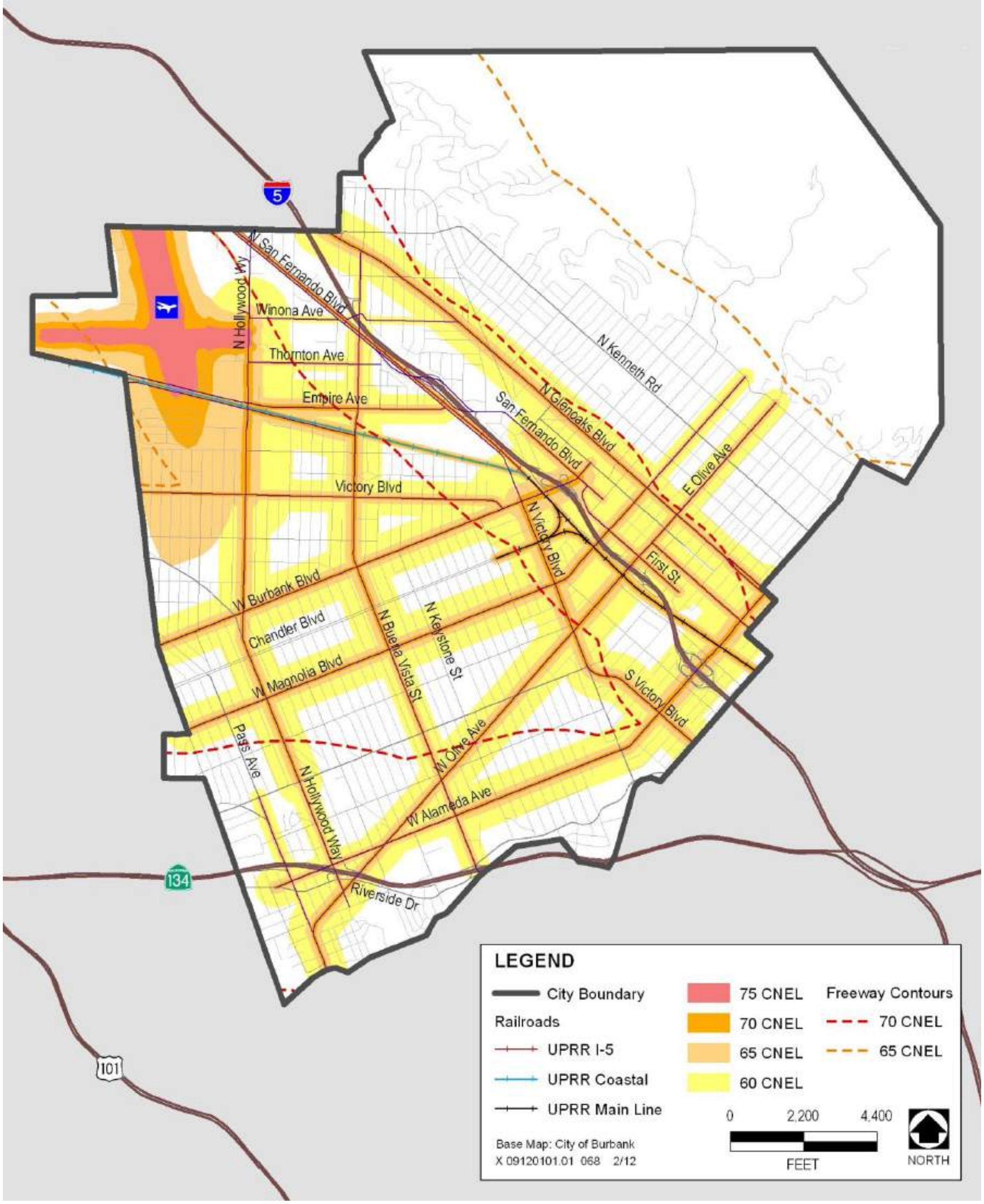
[1] Noise contours consist of modeled areas of similar noise exposure that do not consider the presence of structures (e.g., buildings and solid walls) and natural topography (e.g., hills and berms) that obstruct the line-of-sight between a noise source and a receiver and further reduce noise levels.

the boundary in which new development is subject to additional planning considerations (City of Burbank 2013).

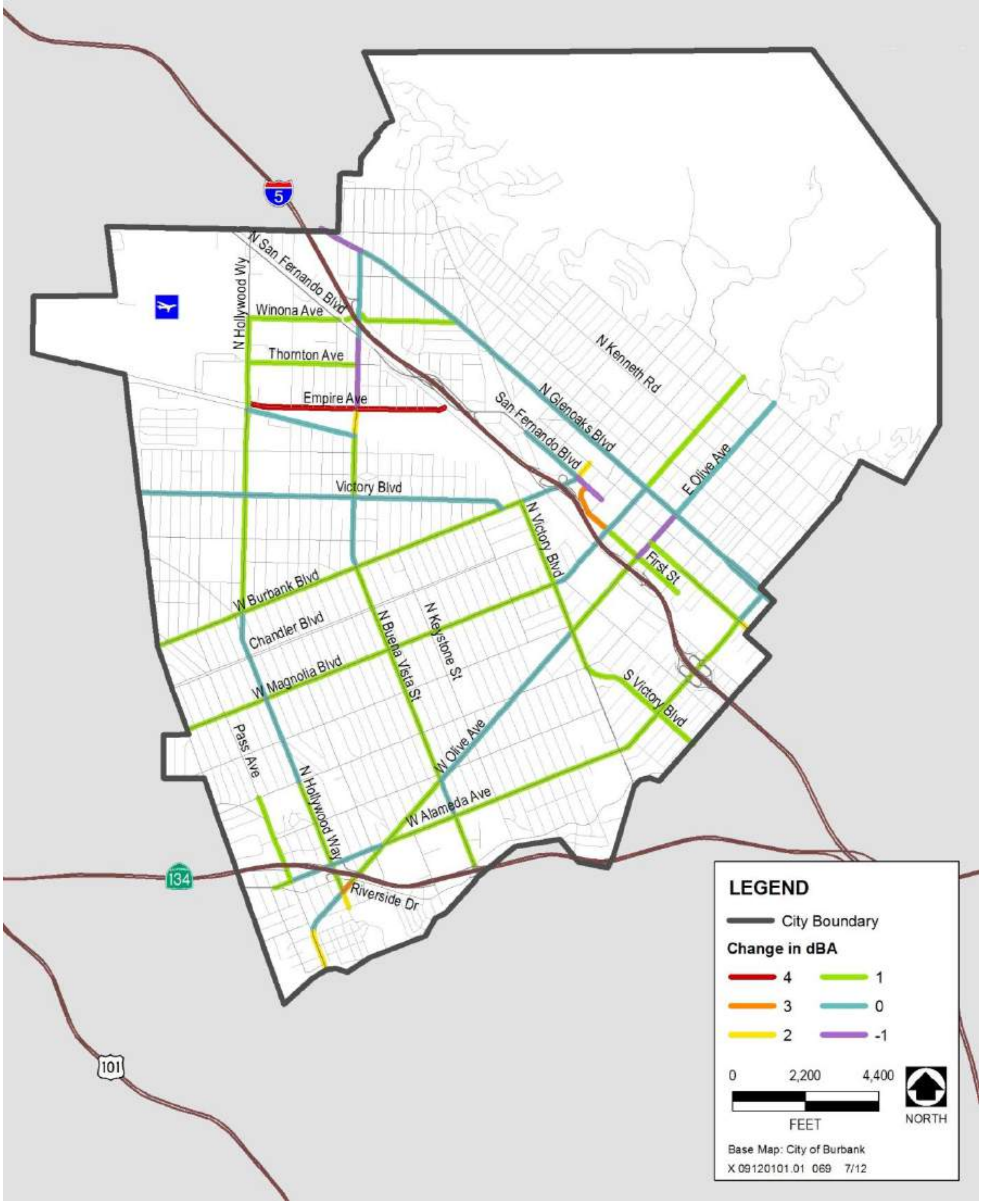
In cases where the actual ambient conditions are not known, the Burbank Municipal Code (BMC) indicates that the city's base ambient noise levels defined in Section 9-3-208.B of the BMC (as shown in Table 4.7-5 under *Regulatory Setting* of this section) should be used to characterize noise conditions. According to Section 9-3-208.B, the city's presumed daytime and nighttime ambient noise levels for residential-zoned areas are 55 dBA and 45 dBA, respectively. Furthermore, the city's presumed all-day ambient noise level for commercial zones is 65 dBA whereas the all-day ambient noise level for all other zones (e.g., industrial) is 70 dBA. These noise levels are generally consistent with the common outdoor noise levels associated with commercial areas and quiet urban areas, as identified by Caltrans and shown in Figure 4.7-1 (i.e., 50 dBA L_{eq} during the daytime and 40 dBA L_{eq} during the nighttime at quiet urban areas; between 60 dBA L_{eq} and 80 dBA L_{eq} during the daytime at commercial districts).

Figure 4.7-2 Baseline Traffic Noise Contours



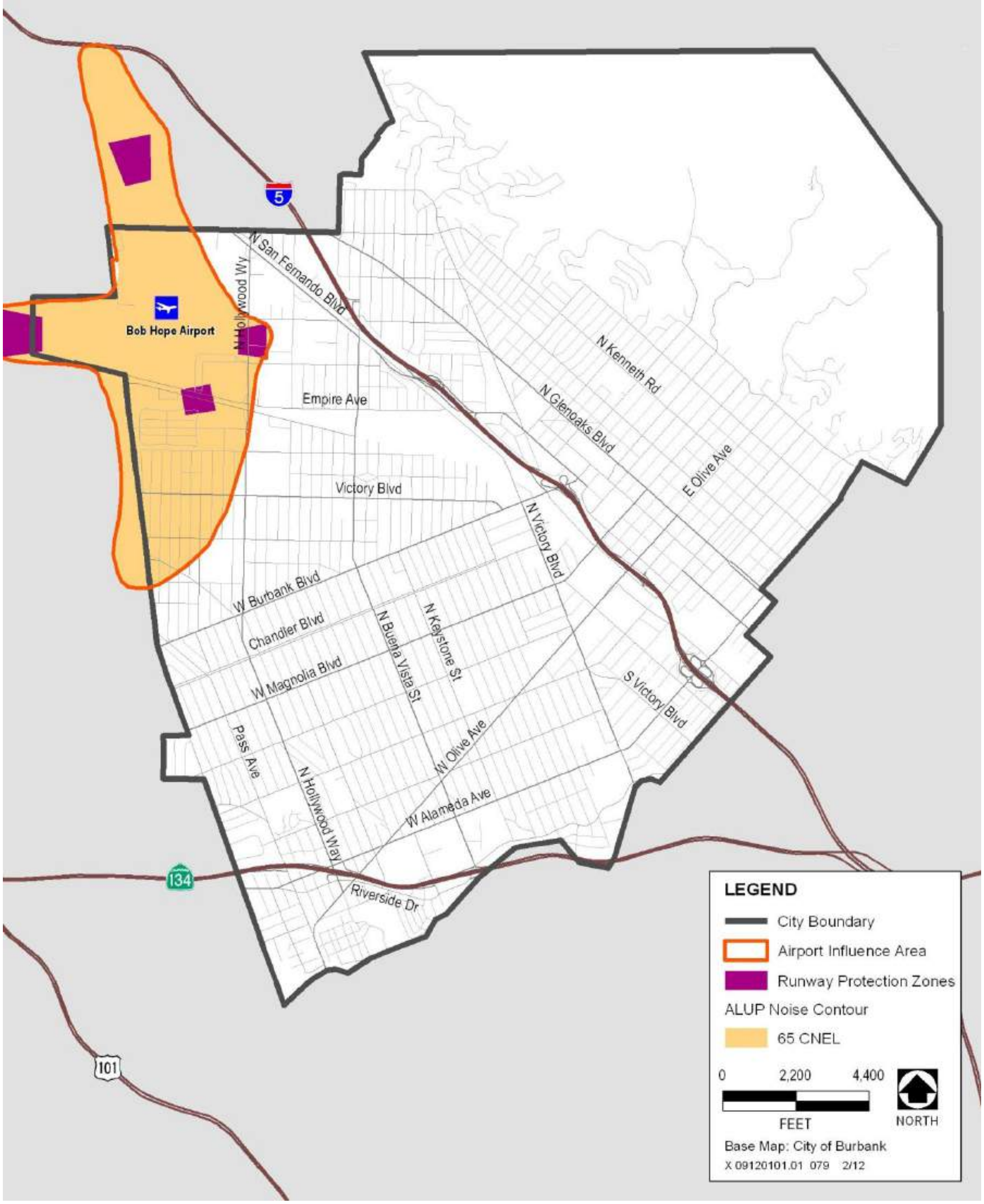
Source: City of Burbank 2013

Figure 4.7-3 Change in Future (Year 2035) Traffic Noise Contours



Source: City of Burbank 2013

Figure 4.7-4 Hollywood Burbank Airport (formerly Bob Hope Airport) Noise Contour



Source: City of Burbank 2013

Vibration Sources

Sources of vibration in the city, similar to that of the noise environment, are also primarily motor vehicles along roadways. Like mobile-source noises, vibration by vehicular movement generally affects numerous receivers along lengths of roadways and depends on pavement and type and weight of the vehicle. Vibration may also be generated by construction equipment (e.g., earth-moving equipment and pile driving); however, these sources are temporary and vary on a project-by-project basis. More permanent, but intermittent, vibration may also be generated by railroad and airport operations, which would affect communities adjacent to these facilities. In addition, commercial or industrial activities may generate vibration from the use of heavy equipment (e.g., businesses that recycle construction debris).

4.7.2 Regulatory Setting

a. Federal

Occupational Safety and Health Act of 1970

Under the Occupational Safety and Health Act of 1970, the Occupational Safety and Health Administration (OSHA) has adopted regulations designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise level exposure as a function of the amount of time during which the worker is exposed. The regulations further specify a hearing conservation program that involves monitoring noise to which workers are exposed, ensuring that workers are made aware of overexposure to noise, and periodically testing the workers’ hearing to detect any degradation.

b. State

California Building Code, Title 24, Part 2, Section 1206.4

According to the 2019 California Building Code (CBC), Title 24, Part 2, Section 1206.4 (Allowable Interior Noise Levels) of the California Code of Regulations, interior noise levels attributable to exterior sources shall not exceed 45 CNEL in any habitable room. A habitable room is typically a residential room used for living, sleeping, eating, or cooking. Bathrooms, closets, hallways, utility spaces, and similar areas are not considered habitable rooms for this regulation.

California Department of Transportation

As discussed in the *Environmental Setting* of this section, Caltrans has developed limits for the assessment of vibration from transportation and construction sources, which are reflective of standard practice for analyzing vibration impacts. Table 4.7-1 presents the impact criteria for structural damage to buildings and Table 4.7-2 presents the criteria for annoyance to humans.

The State noise and vibration guidelines are to be used as guidance with respect to planning for noise, not standards and/or regulations to which the City of Burbank must adhere.

c. Regional

Airport Land Use Commission

In Los Angeles County, the Regional Planning Commission has the responsibility for acting as the Airport Land Use Commission (ALUC) and for coordinating the airport planning of public agencies within the county. The ALUC coordinates planning for the areas surrounding public use airports, and the Airport Land Use Plan (ALUP) provides for the orderly expansion of the County's public use airports and the area surrounding them. It is intended to provide for the adoption of land use measures that will minimize the public's exposure to excessive noise and safety hazards. There are several airports in the city or its vicinity, including the Hollywood Burbank Airport, Whiteman Airport, Van Nuys Airport, Santa Monica Municipal Airport, San Gabriel Airport, and Los Angeles International Airport. The Los Angeles County ALUC is responsible for implementing airport land use plans for these airports that promote compatibility between each airport in the county and the surrounding land uses to ensure that hazardous conditions, including incompatible noise levels, are not created (Los Angeles County 2004).

d. Local

Burbank2035 General Plan Noise Element

The Burbank2035 General Plan Noise Element is intended to identify sources of noise and provide goals, objectives, and policies that ensure that noise from various sources, including transportation and stationary sources, does not create an unacceptable noise environment. As shown in Table 4.7-3, the City has adopted land use compatibility standards for use in assessing the compatibility of various land use types that are exposed to noise levels generated by transportation sources (e.g., traffic, railroad operations, and aircraft). According to the City's standards shown in Table 4.7-3, ambient noise up to 60 CNEL is normally acceptable for single-family residences whereas ambient noise up to 65 CNEL is normally acceptable for multi-family residences. These standards also establish maximum interior noise levels for new residential development, requiring that sufficient insulation be provided to reduce interior ambient noise levels to 45 CNEL (City of Burbank 2013).

Table 4.7-3 Maximum Allowable Noise Exposure – Transportation Sources

Land Use Category	Exterior Normally Acceptable[1] (CNEL/L_{dn})	Exterior Possibly Acceptable[2] (CNEL/L_{dn})	Exterior Normally Unacceptable[3] (CNEL/L_{dn})	Interior Acceptable[4] (CNEL/L_{dn}, except where noted)
Residential, Single-family	Up to 60	61-70	71 and higher	45
Residential, Multi-family	Up to 65	66-70	71 and higher	45
Residential, Multi-family Mixed-use	Up to 65	66-70	71 and higher	45
Transient Lodging	Up to 65	66-70	71 and higher	45
Hospitals, Nursing Homes	Up to 60	61-70	71 and higher	45
Theaters, Auditoriums, Music Halls	Up to 60	61-70	71 and higher	35 dBA L_{eq}[5]
Churches, Meeting Halls	Up to 60	61-70	71 and higher	40 dBA L_{eq}[5]

Land Use Category	Exterior Normally Acceptable[1] (CNEL/L_{dn})	Exterior Possibly Acceptable[2] (CNEL/L_{dn})	Exterior Normally Unacceptable[3] (CNEL/L_{dn})	Interior Acceptable[4] (CNEL/L_{dn}, except where noted)
Playgrounds, Neighborhood Parks	Up to 70	71-75	75 and higher	–
Schools, Libraries, Museums[6]	–	–	–	45 dBA L_{eq}[5]
Offices[7]	–	–	–	45 dBA L_{eq}[5]
Retail/Commercial[7]	–	–	–	–
Industrial	–	–	–	–

[1] Normally acceptable means that land uses may be established in areas with the stated ambient noise level, absent any unique noise circumstances.

[2] Possibly acceptable means that land uses should be established in areas with the stated ambient noise level only when exterior areas are omitted from the project or noise levels in exterior areas can be mitigated to the normally acceptable level.

[3] Normally unacceptable means that land uses should generally not be established in areas with the stated ambient noise level. If the benefits of the project in addressing other Burbank2035 goals and policies outweigh concerns about noise, the use should be established only where exterior areas are omitted from the project or where exterior areas are located and shielded from noise sources to mitigate noise to the maximum extent feasible.

[4] Interior acceptable means that the building must be constructed so that interior noise levels do not exceed the stated maximum, regardless of the exterior noise level. Stated maximums are as determined for a typical worst-case hour during periods of use.

[5] dBA Leq is as determine for a typical worst-case hour during periods of use.

[6] Within the Airport Influence Area, these uses are not acceptable above 65 CNEL if subject to the City's discretionary review procedures.

[7] Within the Airport Influence Area, these uses may be acceptable up to 75 CNEL following review for additional noise attenuation; in excess of 75 CNEL these uses are not acceptable.

Source: City of Burbank 2013

When stationary noise is the primary noise source, the City applies a second set of hourly daytime and nighttime performance standards (expressed in dBA L_{eq}) that are designed to protect noise-sensitive land uses adjacent to stationary sources from excessive noise (City of Burbank 2013). Table 4.7-4 summarizes stationary-source noise standards for various land use types that represent acceptable noise levels at exterior spaces of the sensitive receiver.

Table 4.7-4 Maximum Allowable Noise Exposure – Stationary Sources

Noise Source	Noise Level Descriptor	Exterior Spaces[1] – Daytime (7 AM to 10 PM)	Exterior Spaces[1] – Nighttime (10 PM to 7 AM)
Typical	dBA L_{eq} (1-Hour)	55[2]	45[2]
Tonal, impulsive, repetitive, or consisting primarily of speech or music	dBA L_{eq} (1-Hour)	50[2]	40[2]
Any	dBA L_{max}	75	65

[1] Where the location of exterior spaces (i.e., outdoor activity areas) is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the exterior space.

[2] The City may impose noise level standards that are more or less restrictive than those specified above based upon determination of existing low or high ambient noise levels.

Source: City of Burbank 2013

In addition to these maximum allowable noise exposure standards, for analysis of noise impacts and determining appropriate mitigation under CEQA, an increase in ambient noise levels is assumed to be a significant noise impact if a project causes ambient noise levels to exceed the following (City of Burbank 2013):

- Where the existing ambient noise level is less than 60 CNEL/L_{dn}, a project-related permanent increase in ambient noise levels of 5 CNEL/L_{dn} or greater.
- Where the existing ambient noise level is greater than 60 CNEL/L_{dn}, a project-related permanent increase in ambient noise levels of 3 CNEL/L_{dn} or greater.

Furthermore, the following goals, objectives, and policies from the General Plan Noise Element are relative to the Housing Element Update (City of Burbank 2013):

Goal 1: Noise Compatible Land Uses: Burbank's diverse land use pattern is compatible with current and future noise levels.

Policy 1.1: Ensure the noise compatibility of land uses when making land use planning decisions.

Policy 1.2: Provide spatial buffers in new development projects to separate excessive noise generating uses from noise-sensitive uses.

Policy 1.3: Incorporate design and construction features into residential and mixed-use projects that shield residents from excessive noise.

Policy 1.4: Maintain acceptable noise levels at existing noise-sensitive land uses.

Policy 1.5: Reduce noise from activity centers located near residential areas, in cases where noise standards are exceeded.

Policy 1.6: Consult with movie studios and residences that experience noise from filming activities to maintain a livable environment.

Goal 2: Noise in Mixed-Use Development: Noise from commercial activity is reduced in residential portions of mixed-use projects.

Policy 2.1: Require the design and construction of buildings to minimize commercial noise within indoor areas of residential components of mixed-use projects.

Policy 2.2: Locate the residential portion of new mixed-use projects away from noise generating sources such as mechanical equipment, gathering places, loading bays, parking lots, driveways, and trash enclosures.

Goal 3: Vehicular Traffic Noise: Burbank's vehicular transportation network reduces noise levels affecting sensitive land uses.

Policy 3.1: Support noise-compatible land uses along existing and future roadways, highways, and freeways.

Policy 3.2: Encourage coordinated site planning and traffic management that minimizes traffic noise affecting noise-sensitive land uses.

Policy 3.3: Advocate the use of alternative transportation modes such as walking, bicycling, mass transit, and non-motorized vehicles to minimize traffic noise.

Policy 3.4: Install, maintain, and renovate freeway and highway right-of-way buffers and sound walls through continued work with the California Department of Transportation (Caltrans) and Los Angeles County Metropolitan Transportation Authority (MTA).

Policy 3.5: Monitor noise levels in residential neighborhoods and reduce traffic noise exposure through implementation of the neighborhood protection plans.

Policy 3.6: Prohibit heavy trucks from driving through residential neighborhoods.

Policy 3.7: Where feasible, employ noise-cancelling technologies such as rubberized asphalt, fronting homes to the roadway, or sound walls to reduce the effects of roadway noise on sensitive receptors.

Policy 3.8: Within the Airport Influence Area, seek to inform residential property owners of airport generated noise and any land use restrictions associated with high noise exposure.

Goal 4: Train Noise: Burbank's train service network reduces noise levels affecting residential areas and noise-sensitive land uses.

Policy 4.1: Support noise-compatible land uses along rail corridors.

Policy 4.2: Require noise-reducing design features as part of transit-oriented, mixed-use development located near rail corridors.

Policy 4.3: Promote the use of design features, such as directional warning horns or strobe lights, at railroad crossings that reduce noise from train warnings.

Goal 5: Aircraft Noise: Burbank achieves compatibility between airport-generated noise and adjacent land uses and reduces aircraft noise effects on residential areas and noise-sensitive land uses.

Policy 5.1: Prohibit incompatible land uses within the airport noise impact area.

Policy 5.2: Work with regional, state, and federal agencies, including officials at Bob Hope Airport, to implement noise reduction measures and to monitor and reduce noise associated with aircraft.

Policy 5.3: Coordinate with the Federal Aviation Administration and Caltrans Division of Aeronautics regarding the siting and operation of heliports and helistops to minimize excessive helicopter noise.

Policy 5.4: Within the Airport Influence Area, seek to inform residential property owners of airport generated noise and any land use restrictions associated with high noise exposure.

Goal 6: Industrial Noise: Noise generated by industrial activities is reduced in residential areas and at noise-sensitive land uses.

Policy 6.1: Minimize excessive noise from industrial land uses through incorporation of site and building design features.

Policy 6.2: Require industrial land uses to locate vehicular traffic and operations away from adjacent residential areas.

Goal 7: Construction, Maintenance, and Nuisance Noise: Construction, maintenance, and nuisance noise is reduced in residential areas and at noise-sensitive land uses.

Policy 7.1: Avoid scheduling city maintenance and construction projects during evening, nighttime, and early morning hours.

Policy 7.2: Require project applicants and contractors to minimize noise in construction activities and maintenance operations.

Policy 7.3: Limit the allowable hours of construction activities and maintenance operations located adjacent to noise-sensitive land uses.

Policy 7.4: Limit the allowable hours of operation for and deliveries to commercial, mixed-use, and industrial uses located adjacent to residential areas.

City of Burbank Municipal Code

The City's noise standards, found in Title 9, Chapter 3, Article 2 (Noise Control) of the City of Burbank Municipal Code (BMC), set forth hours of operation for certain activities and standards for determining when noise is deemed to be a disturbance.

Section 9-3-208.A of the BMC prohibits the operation of any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical device in such a manner as to cause the ambient noise level at an adjacent noise-sensitive property to be exceeded by more than 5 dBA. In the case of leaf blowers, the ambient noise level may not be exceeded by more than 20 dBA. According to Section 9-3-208.B, the ambient noise level referred to in this section are described by the base levels and pertaining zones shown in Table 4.7-5.

Table 4.7-5 Ambient Noise Base Level

Zone	Time	Base Levels (dBA)
Residential	Nighttime (10:00 p.m. to 7:00 a.m.)	45
Residential	Daytime (7:00 a.m. to 10:00 p.m.)	55
Commercial	Anytime	65
All Other Zones	Anytime	70

Source: BMB Section 9-3-208.B

According to Section 9-3-213 of the BMC, no person shall use or operate any radio receiving set, musical instrument, phonograph, television set or other machine or device for the producing or reproducing of sound in such manner as to cause disturbance and cause the ambient noise level at an adjacent noise-sensitive property to be exceeded by more than 5 dBA.

Similarly, according to Section 9-3-213.5 of the BMC, no person in a park (including public parking lots) or on a right of way adjacent to a park shall use or operate any radio receiving set, musical instrument, phonograph, television set or other machine or device for the producing or reproducing of sound or other sound amplification systems in such manner as to disturb the peace, quiet, and comfort of neighboring residents or any reasonable person of normal sensitiveness residing in the area.

According to Section 9-3-224 of the BMC, no person shall create any noise on any street, sidewalk or public place adjacent to any hospital or to any school, institution of learning or church while the same is in use, which noise unreasonably interferes with the workings of such institution or which disturbs or unduly annoys patients in the hospital, provided conspicuous signs are displayed in such streets, sidewalk or public place indicating the presence of a school, church or hospital.

The BMC also designates hours of construction applicable to all construction, alteration, movement, enlargement, replacement, repair, equipment, maintenance, removal and demolition work. Section 9-1-1-105.10 of the BMC prohibits construction activity between 7:00 p.m. and 7:00 a.m. Monday through Friday, between 5:00 p.m. and 8:00 a.m. on Saturdays, and at any time on Sundays or national holidays.

4.7.3 Environmental Impacts

a. Thresholds of Significance

In accordance with Appendix G of the CEQA Guidelines, the Housing Element Update's noise and vibration impacts would be significant if it would:

1. Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies
2. Generate excessive groundborne vibration or groundborne noise levels
3. For a project located within the vicinity of a private airstrip or 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, expose people residing or working in the project area to excessive noise levels

The Initial Study (Appendix B) determined that the proposed Project could result in potentially significant impacts related to ambient noise levels (Threshold 1), groundborne vibration (Threshold 2), and airport noise (Threshold 3). As such, an analysis of these issues is included in this section of the EIR. The following discussion identifies specific thresholds used to analyze the general CEQA thresholds listed above.

Construction Noise Thresholds

While the City does not have specific noise level criteria for assessing construction impacts, the FTA has developed guidance for determining whether construction of a project would result in a substantial temporary increase in noise levels. Based on FTA guidance, for residential land uses, a significant impact would occur if construction noise exceeds an eight-hour 80 dBA L_{eq} daytime noise limit or an eight-hour 70 dBA L_{eq} nighttime noise limit (FTA 2018). As described under Section 4.7.2, *Regulatory Framework*, construction hours would comply with Section 9-1-1-105.10 of the BMC and would not occur during nighttime hours between 7:00 p.m. and 7:00 a.m. Monday through Friday, between 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sundays or national holidays. Therefore, nighttime construction noise is not analyzed further in this section.

Operational Noise Thresholds

The City has adopted noise standards in the BMC that regulate on-site operational noise sources in the city. The Housing Element Update would result in a significant impact if the accommodated 10,456 housing units generate noise from on-site sources in excess of BMC standards included in Chapters 9-3-208, 9-3-213, 9-3-213.5, and 9-3-224 (as described under Section 4.7.2, *Regulatory Framework*), which collectively regulate noise from operations that are typical to residential uses (e.g., sound-amplifying devices, HVAC equipment, lawn maintenance equipment, hand tools, wheeled equipment, outdoor activities).

Off-site operational noise (i.e., roadway noise) would result in a significant if housing development accommodated under the Housing Element Update would cause the ambient noise level measured at the property line of affected uses to increase by 3 dBA, which would be a perceptible increase in traffic noise.

In addition, as described by the Burbank2035 General Plan Noise Element, an increase in ambient noise levels is assumed to be a significant noise impact if a project causes ambient noise levels to exceed the following (City of Burbank 2013):

- Where the existing ambient noise level is less than 60 CNEL/L_{dn}, a project-related permanent increase in ambient noise levels of 5 CNEL/L_{dn} or greater.
- Where the existing ambient noise level is greater than 60 CNEL/L_{dn}, a project-related permanent increase in ambient noise levels of 3 CNEL/L_{dn} or greater.

Land Use Compatibility Thresholds

According to the City's land use compatibility standards shown in Table 4.7-3, ambient noise up to 60 CNEL is normally acceptable for single-family residences whereas ambient noise up to 65 CNEL is normally acceptable for multi-family residences. In addition, ambient noise up to 70 CNEL is possible acceptable for all residences. These standards also establish maximum interior noise levels for new residential development, requiring that enough insulation be provided to reduce interior ambient noise levels to 45 CNEL (City of Burbank 2013).

Groundborne Vibration Thresholds

The City has not adopted a significance threshold to assess vibration impacts during construction and operation. Therefore, the Caltrans *Transportation and Construction Vibration Guidance Manual* (2020) is used to evaluate potential construction vibration impacts related to both potential building damage and human annoyance. Construction vibration impacts from housing development would be significant if vibration levels exceed the Caltrans criteria shown in Table 4.7-1 and Table 4.7-2. For example, impacts would be significant if vibration levels exceed 0.5 in./sec. PPV for residential structures and 2.0 in./sec. PPV for commercial structures, which is the limit where minor cosmetic (i.e., non-structural) damage may occur to these buildings. Construction vibration impacts would also be significant if vibration levels exceed 0.12 in./sec. PPV for extremely fragile historic buildings, as shown in Table 4.7-1. In addition, construction vibration impacts would cause significant human annoyance at nearby receivers if vibration levels exceed 0.25 in./sec. PPV, which is the limit where vibration becomes distinctly perceptible from barely perceptible.

Airport Noise Thresholds

Exposure to airport noise would be significant if new housing development is located within the Hollywood Burbank Airport's 65 CNEL noise contour identified in the Burbank2035 General Plan Noise Element and as shown in Figure 4.7-4 (City of Burbank 2013).

b. Methodology

As discussed in Section 2, *Project Description*, the Housing Element Update is a plan to accommodate forecasted growth and existing and future need. The following discussion describes the methodology, including models, used to evaluate the significance of potential noise and vibration impacts related to the forecasted construction and operation of 10,456 housing units accommodated by the Housing Element Update, particularly for construction noise, on-site and off-site operational noise, and construction vibration.

Construction Noise

The primary source of temporary noise associated with the Housing Element Update would be construction activities associated with accommodated housing development. Construction equipment can be considered to operate in two modes: stationary and mobile. Stationary equipment operates in a single location for one or more days at a time, with either fixed-power operation (e.g., pumps, generators, and compressors) or variable-power operation (e.g., pile drivers, rock drills, and pavement breakers). Mobile equipment moves around a construction site with power applied in cyclic fashion, such as bulldozers, graders, and loaders (FTA 2018). Each phase of construction has its own noise characteristics due to specific equipment mixes; some will have higher continuous noise levels than others and some may have high-impact intermittent noise levels (FTA 2018). Therefore, construction noise levels may fluctuate depending on the type of equipment being used, construction phase, or equipment location. In typical construction projects on vacant sites, grading activities typically generate the highest noise levels because grading involves the largest equipment and covers the greatest area. Foundation excavation and construction is often the second loudest phase, followed by paving and building construction.

Variation in power imposes additional complexity in characterizing the noise source level from construction equipment. Power variation is accounted for by describing the noise at a reference distance from the equipment operating at full power and adjusting it based on the duty cycle, or percent of operational time, of the activity to determine the L_{eq} of the operation (FTA 2018).

For assessment purposes, noise levels for common construction equipment provided in the FTA *Transit Noise and Vibration Impact Assessment* (2018) guidance document were used to analyze potential noise levels associated with future development under the Housing Element Update. The FTA provides typical noise levels at 50 feet from various types of equipment. Construction noise was also estimated using the FHWA's Roadway Construction Noise Model (RCNM) (2006). RCNM predicts construction noise levels for a variety of construction operations based on empirical data and the application of acoustical propagation formulas. Using RCNM, construction noise levels were estimated at a distance of 50 feet from future development. Model results are included in Appendix G to this EIR.

In general, smaller housing developments on urban infill sites are not likely to result in substantial construction noise impacts because construction activities at these sites are inherently limited by the size of the site. The size of urban infill project sites typically limits the use of the largest (i.e., noisiest) pieces of heavy-duty equipment. The size of a project site also typically limits the size of the development and the related duration of construction activities. Although some individuals may find construction noise of any kind or of any duration very disturbing, as a general matter, typical construction (including with the implementation of mitigation measures described in further detail in the following subsection) does not result in and would not be considered a significant impact. Therefore, while urban infill housing developments that meet the following criteria could result in disturbance to residents and employees at adjacent properties, resulting noise levels typically would not result in significant construction noise impacts:

- One subterranean level or less (generally 20,000 cubic yards or less of excavated soil material);
- Construction durations of less than 18 months (excluding interior finishing);
- Use of equipment rated less than 300 horsepower, typically small and medium backhoes, bulldozers, etc.; and
- No potential for pile driving.

Larger projects that require extended construction or heavy-duty equipment could expose sensitive uses to more continuous and/or louder noise impacts and result in significant short-term noise exposure. When noise-sensitive land uses (e.g., residences, schools, libraries, hospitals) are located within 500 feet of a project site, projects that meet one or more of the characteristics below may have the potential to result in significant impacts:

- Two subterranean levels or more (generally more than 20,000 cubic yards of excavated soil material);
- Construction durations of 18 months or more (excluding interior finishing);
- Use of large, heavy-duty equipment rated 300 horsepower or greater; or
- The potential for pile driving.

On-site Operational Noise

The primary on-site noise sources associated with operation of housing developments, including in mixed use developments, and those discussed in this analysis, would include noise from stationary heating, ventilation, and air conditioning (HVAC) equipment, on-site vehicle movement (e.g., delivery and trash hauling), and outdoor activities. Analysis of outdoor activity considers the existing noise environment and refers to regulations included in the City's noise ordinance (i.e., Title 9, Chapter 3, Article 2 of the BMC).

Specific planning data for HVAC systems are not available at this stage of analysis; however, for a reasonable assessment, specification for a typical to larger-sized residential condenser was used to determine project HVAC noise. The unit used for this analysis is a Carrier 38HDR060 split system condenser. The manufacturer's noise data lists the unit as having a sound power level of 72 dBA (Carrier 2011).

Off-site Operational Noise

Housing development accommodated under the Housing Element Update would generate motor vehicle trips, thereby increasing off-site traffic on area roadways. The Project's off-site traffic noise impacts are analyzed based on data from the Transportation Assessment completed by Fehr & Peers (F&P) dated July 2021, which is included as Appendix E to this EIR. The overall increase in traffic noise was estimated using vehicle miles traveled (VMT) data from the Transportation Assessment for existing conditions (Year 2021), future without project conditions (i.e., Year 2029 without the Housing Element Update), and future with project conditions (i.e., Year 2029 with the Housing Element Update). Residential development under the Housing Element Update would generate vehicle trips, thereby increasing traffic on area roadways.

Groundborne Vibration

Operation of housing development accommodated by the Housing Element Update would not include any substantial vibration sources (e.g., use of heavy equipment). Rather, construction activities would have the greatest potential to generate groundborne vibration affecting sensitive receivers and/or structures adjacent to a construction site, especially during grading and when a site is located near a historic site or structure. As discussed in Section 4.3, *Cultural Resources/Tribal Cultural Resources*, the Downtown TOD Specific Plan (TOD) inventory possesses 36 parcels with known historic-period buildings and the Golden State Specific Plan (GSSP) inventory contains 32 parcels.

A quantitative assessment of potential vibration impacts from construction activities was conducted using equations developed by Caltrans (Caltrans 2020). Table 4.7-6 shows typical vibration levels for various pieces of construction equipment used in the construction vibration assessment.

Table 4.7-6 Typical Vibration Levels for Construction Equipment

Equipment	PPV (in./sec.) at 25 Feet
Pile Driver (Impact)	0.644
Pile Driver (Sonic)	0.170
Vibratory Roller	0.210
Hoe Ram	0.089
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Truck	0.076
Jackhammer	0.035
Small Bulldozer	0.003

Sources: FTA 2018; Caltrans 2020

Because groundborne vibration could cause physical damage to structures and is measured in an instantaneous period, vibration impacts are typically modeled based on the distance from the location of vibration-intensive construction activities, which is conservatively assumed to be edge of a project site, to the edge of the nearest off-site structures. For assessment purposes, vibration levels for the construction equipment shown in Table 4.7-6 were modeled at various incremental distances between 25 feet and 100 feet to analyze potential vibration levels associated with future development under the Housing Element Update. Vibration calculations are included in Appendix G to this EIR.

c. Project Impacts

Threshold 1: Would the project result in generation of a substantial temporary increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact NOI-1 CONSTRUCTION ASSOCIATED WITH HOUSING DEVELOPMENT ACCOMMODATED UNDER THE HOUSING ELEMENT UPDATE WOULD BE REQUIRED TO COMPLY WITH THE ALLOWED DAYTIME CONSTRUCTION HOURS REGULATED BY THE BURBANK MUNICIPAL CODE AND, THEREFORE, WOULD NOT OCCUR DURING NIGHTTIME HOURS WHEN PEOPLE ARE MORE SENSITIVE TO NOISE. WHILE LARGER DEVELOPMENTS COULD INVOLVE CONSTRUCTION WITH LENGTHY DURATIONS, SUBSTANTIAL SOIL MOVEMENT, USE OF LARGE, HEAVY-DUTY EQUIPMENT, AND/OR PILE DRIVING NEAR NOISE-SENSITIVE LAND USES THAT WOULD EXCEED THE APPLICABLE FTA DAYTIME NOISE LIMITS, IMPLEMENTATION OF MITIGATION MEASURES NOI-1A THROUGH NOI-51J WOULD REDUCE CONSTRUCTION NOISE LEVELS TO BELOW THRESHOLDS. THEREFORE, IMPACTS GENERATED BY TEMPORARY CONSTRUCTION NOISE WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Future construction activity would require the use of a variety of noise-generating equipment that would result in temporary increases in ambient noise levels on an intermittent basis. Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receiver, and presence or absence of noise attenuation barriers. Typical noise levels at 50 feet from various types of equipment that may be used during construction are listed in Table 4.7-7. The loudest noise levels are typically generated by impact equipment (e.g., pile drivers) and heavy-duty equipment (e.g., cranes, scrapers, and graders). Construction noise would occur intermittently throughout construction and, in some instances, multiple pieces of equipment may operate simultaneously, generating overall noise levels that are incrementally higher than what is shown in Table 4.7-7.

Table 4.7-7 Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA) at 50 Feet from Source
Air Compressor	80
Backhoe	80
Compactor	82
Concrete Mixer	85
Concrete Pump	82
Concrete Vibrator	76
Crane, Derrick	88
Crane, Mobile	83
Dozer	85
Generator	82
Grader	85
Jackhammer	88
Loader	80
Paver	85
Pile-driver (Impact)	101
Pile-driver (Sonic)	95
Pneumatic Tool	85
Pump	77
Roller	85
Saw	76
Scarifier	83
Scraper	85
Shovel	82
Truck	84

Sources: FTA 2018

Sensitive receivers are located throughout the city and could be exposed to noise associated with construction activities from reasonably foreseeable development under the Housing Element Update. As discussed in Section 4.7.1, *Environmental Setting*, sensitive receivers in the city mainly consist of residences but also include parks, motels, hotels, movies studios, school, and hospitals. Because specific development projects have not yet been determined at individual sites, this analysis assumes that construction activities would occur within 50 feet from sensitive receivers throughout the course of a typical construction day. As shown in Table 4.7-7, sensitive receivers would be exposed to noise levels ranging from 76 to 88 dBA at 50 feet from typical construction equipment, and could reach as high as 101 dBA through the use of pile drivers. However, a typical construction day includes the operation of multiple pieces of equipment at once. For assessment purposes, a construction noise level at 50 feet from the source was estimated using RCNM and was based on an excavator, dozer, and jackhammer operating simultaneously. These pieces of equipment generate some of the highest noise levels during demolition and grading phases of construction. As shown in Table 4.6-8, the combined noise level (dBA, L_{eq}) from these pieces of equipment is estimated at 84 dBA L_{eq} at 50 feet.

Table 4.6-8 Typical Construction Noise Level at 50 Feet

Equipment	L_{eq}, dBA at 50 Feet
Excavator, Dozer, Jackhammer	84

See Appendix G for RCNM results.

Construction noise levels would vary depending on the type of equipment, the duration of use, the distance to receivers, and the potential for pile driving. Engine noise reduction technology, including silencers, continues to improve, but heavy construction equipment still generates noise exceeding ambient levels that could cause intermittent annoyance to nearby receivers. Noise associated with construction of development under the Housing Element Update would be typical of residential construction, but could exceed the eight-hour 80 dBA L_{eq} daytime significance threshold at residences.

As previously discussed in *Methodology* of this section, housing development accommodated under the Housing Element Update that could result in construction noise would tend to include relatively lengthy construction durations (i.e., longer than 18 months), two or more subterranean levels, use of multiple pieces of heavier equipment (i.e., cranes, excavators, dozers), simultaneous use of multiple pieces of equipment, and generally noisier activities, such as the potential for pile driving. While these larger projects are not considered typical, they could potentially result in significant noise impacts, particularly upon potentially adjacent residential zones or other nearby sensitive receivers, and temporarily increase ambient noise levels above FTA noise limits. The type of construction equipment, proximity of sensitive receivers to the site, and the overall duration of construction are key factors in determining whether construction-related noise would be significant at the project-level as opposed to determining construction noise impacts at the programmatic level. Based on typical construction equipment noise levels, the anticipated duration of construction activities, and type of equipment used for larger housing developments, the Housing Element Update could result in potentially significant construction noise impacts on a project-specific basis at nearby sensitive receivers. With implementation of the following mitigation measures, impacts would be reduced to a less than significant level .

Mitigation Measures

The following mitigation measures are required to reduce construction-related noise impacts to sensitive receivers near subsequent development projects.

NOI-1a Shielding and Silencing

Power construction equipment (including combustion engines), fixed or mobile, shall be equipped with noise shielding and silencing devices consistent with manufacturer’s standards or the Best Available Control Technology. Equipment shall be properly maintained, and the project applicant or owner shall require any construction contractor to keep documentation on-site during any earthwork or construction activities demonstrating that the equipment has been maintained in accordance with manufacturer’s specifications.

NOI-1b Enclosures and Screening

All outdoor fixed mechanical equipment shall be enclosed or screened from off-site noise-sensitive uses. The equipment enclosure or screen shall be impermeable (i.e., solid material with minimum weight of 2 pounds per square feet) and break the line-of-sight from the equipment and off-site noise-sensitive uses.

NOI-1c Construction Staging Areas

Construction staging areas shall be located as far from noise-sensitive uses as reasonably possible and feasible in consideration of site boundaries, topography, intervening roads and uses, and operational constraints.

NOI-1d Smart Back-Up Alarms

Mobile construction equipment shall have smart back-up alarms that automatically adjust the sound level of the alarm in response to ambient noise levels. Alternatively, back-up alarms shall be disabled and replaced with human spotters to ensure safety when mobile construction equipment is moving in the reverse direction.

N-1e Equipment Idling

Construction vehicles and equipment shall not be left idling for longer than five minutes when not in use.

N-1f Workers' Radios

All noise from workers' radios, including any on-site music, shall be controlled to a point that they are not audible at off-site noise-sensitive uses.

NOI-1g Use of Driven Pile Systems

Driven (impact), sonic, or vibratory pile drivers shall not be used, except in locations where the underlying geology renders alternative methods infeasible, as determined by a soils or geotechnical engineer and documented in a soils report.

NOI-1h Temporary Sound Barriers

Temporary sound barriers, such as walls or sound blankets, shall be positioned between construction activities and noise-sensitive uses when construction equipment are located within a line-of-sight to and within 500 feet of off-site noise-sensitive uses. Sound barriers shall break the line-of-sight between the construction noise source and the receiver where modeled levels exceed applicable standards. Placement, orientation, size, and density of acoustical barriers shall be specified by a qualified acoustical consultant.

NOI-1i Noise Complaint Response

Project applicants shall designate an on-site construction project manager who shall be responsible for responding to any complaints about construction noise. This person shall be responsible for responding to concerns of neighboring properties about construction noise disturbance and shall be available for responding to any construction noise complaints during the hours that construction is to take place. They shall also responsible for determining the cause of the noise complaint (e.g., bad silencer) and shall require that reasonable measures be implemented to correct the problem. A toll-free telephone number and email address shall be posted in a highly visible manner on the construction site at all times and provided in all notices (mailed, online website, and construction site postings) for receiving questions or complaints during construction and shall also include procedures requiring that the on-site construction manager to respond to callers and email messages. The on-site construction project manager shall be required to track complaints pertaining to construction noise, ongoing throughout demolition, grading, and/or construction and shall notify the City's Community Development Director of each complaint occurrence.

NOI-1j Project-Specific Construction Noise Study

A Construction Noise Study, prepared by a qualified noise expert to meet the requirements herein, shall be required for housing development projects located within 500 feet of noise-sensitive land uses identified in the Burbank2036 General Plan Noise Element (i.e., residences, parks, motels, hotels, movies studios, school, and hospitals), and that have one or more of the following characteristics:

- Two subterranean levels or more (generally more than 20,000 cubic yards of excavated soil material;
- Construction durations of 18 months or more (excluding interior finishing);
- Use of large, heavy-duty equipment rated 300 horsepower or greater;
- The potential for pile driving; or
- Located within 1,000 feet of other construction projects with overlapping construction schedules.

The Construction Noise Study shall characterize sources of construction noise, quantify noise levels at noise-sensitive uses (e.g., residences, parks, motels, hotels, movies studios, school, and hospitals) and identify measures to reduce noise exposure. The Construction Noise Study shall identify reasonably available noise reduction devices or techniques to reduce noise levels to acceptable levels and/or durations including through reliance on any relevant federal, state or local standards or guidelines or accepted industry practices. Noise reduction devices or techniques may include but not be limited to silencers, enclosures, sound barriers, and/or placement of restrictions on equipment or construction techniques (e.g., alternative installation methods to pile driving such as cast-in-place systems or pile cushioning). Each measure in the Construction Noise Study shall identify anticipated noise reductions at noise-sensitive land uses.

Project applicants shall be required to comply with all requirements of Mitigation Measures NOI-1a through NOI-1i in addition to any additional requirements identified and recommended by the Construction Noise Study and shall maintain proof that notice of, as well as compliance with, the identified measures have been included in contractor agreements.

Significance After Mitigation

It is anticipated that, with implementation of Mitigation Measures NOI-1a through NOI-1i, construction noise levels associated with smaller housing development could be reduced below the eight-hour 80 dBA L_{eq} daytime residential noise limit per FTA guidelines. However, noise generated by larger housing development may still exceed the FTA noise limit. This would most commonly occur when a development project requiring larger equipment generates high noise levels (e.g., pile driving) on a property abutting a sensitive receiver. Nonetheless, for such larger housing developments, Mitigation Measure NOI-1j would reduce construction noise impacts whenever a development project is located within 500 feet of a noise-sensitive land use. It is anticipated that, with implementation of Mitigation Measure NOI-1j, reasonably available noise reduction devices or techniques would be identified to reduce noise levels to acceptable levels and/or durations including through reliance on any relevant federal, state or local standards or guidelines or accepted industry practices. Therefore, noise impacts from construction activities related to the Housing Element Update would be less than significant with mitigation.

Threshold 1: Would the project result in generation of a substantial permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Impact NOI-2 HOUSING DEVELOPMENT ACCOMMODATED UNDER THE HOUSING ELEMENT UPDATE COULD INCLUDE MECHANICAL EQUIPMENT (I.E., HVAC), DELIVERY AND TRASH TRUCKS, AND OTHER NOISE-GENERATING ACTIVITIES. HOWEVER, SUCH ACTIVITIES WOULD BE TYPICAL OF THE URBAN ENVIRONMENT. IN ADDITION, ON-SITE ACTIVITIES WOULD BE REQUIRED TO COMPLY WITH APPLICABLE NOISE STANDARDS IN THE BURBANK MUNICIPAL CODE. FURTHERMORE, WHILE HOUSING DEVELOPMENT WOULD GENERATE VEHICLE TRIPS IN THE CITY, THE INCREASE IN MOBILE NOISE WOULD NOT RESULT IN A PERCEPTIBLE 3-DBA INCREASE. THEREFORE, PERMANENT NOISE INCREASES DUE TO OPERATION OF THE HOUSING ELEMENT UPDATE WOULD BE LESS THAN SIGNIFICANT.

Housing development accommodated under the Housing Element Update would include residential development at increased intensity and density throughout the city that would generate on-site operational noise from stationary sources and off-site operational noise from vehicle trips. Typical noise sources associated with residential uses include stationary HVAC equipment, on-site vehicle movement (e.g., delivery and trash hauling), outdoor activities, and off-site traffic.

On-site Operational Noise

HVAC EQUIPMENT

Based on manufacturer's specifications, a Carrier 38HDR060 split-system with a sound power level of 72 dBA would generate a noise level of approximately 57 dBA at a distance of seven feet. As shown in Table 4.7-5, the ambient base noise level is 55 dBA during the daytime and 45 dBA during the nighttime for residential-zoned areas. Therefore, in the case where the actual ambient conditions are not known, noise from HVAC equipment could exceed the city's presumed ambient noise conditions when compared to a reference noise level 57 dBA at a distance of seven feet from the HVAC equipment source. However, noise levels from HVAC equipment associated with housing development would be comparable to noise levels of HVAC equipment associated with the existing urban environment. Furthermore, the design and placement of new HVAC equipment would be required to comply with Section 9-3-208.A of the BMC, which prohibits noise from any machinery, equipment, pump, fan, air conditioning apparatus from exceeding the ambient noise levels of adjacent noise-sensitive properties by more than 5 dBA. On-site equipment would be typically designed such that it would be shielded by sound barriers that block the line-of-sight to sensitive receivers or it would include installation of appropriate noise-muffling devices to reduce noise. The operation of HVAC equipment would have a less than significant noise impact.

VEHICLE ACTIVITY (DELIVERY AND TRASH HAULING)

Future residential development would increase the number of delivery and trash hauling trucks traveling through the city to individual development sites. Increased delivery and trash hauling trucks could intermittently expose various sensitive receivers to increased truck noise. Section 23130 of the California Motor Vehicle Code establishes maximum sound levels of 86 dBA L_{eq} at 50 feet for trucks operating at speeds less than 35 miles per hour. While individual delivery truck and/or loading or trash pick-up operations would likely be audible at properties adjacent to individual development, such operations are already a common occurrence in the urban environment. In addition, solid waste pick-up operations are typically scheduled during daytime hours when people tend to be less sensitive to noise. Furthermore, these noise events from trucks are typically transient and intermittent, and do not occur for a sustained period of time. Therefore, the project would not result in a substantial permanent increase in ambient noise levels from trash and delivery trucks due their prevalence in the city, resulting in a less than significant impact.

OUTDOOR ACTIVITY AREAS

Housing developments would generate noise from conversations, music, television, or other outdoor sound-generating equipment (e.g., leaf blowers), particularly in the event future residents maintain open windows or such activities take place on balconies. However, these noise-generating activities would be similar to those of the existing urban environment. Moreover, Section 9-3-208.A of the BMC prohibits the operation of leaf blowers from exceeding the ambient noise level of adjacent noise-sensitive properties by more than 20 dBA. In addition, Section 9-2-213 of the BMC prohibits the operation radios, musical instruments, television sets, and other sound-amplifying devices from exceeding the ambient noise levels of adjacent noise-sensitive properties by more than 5 dBA. Required compliance with code enforcement would reduce operational noise impacts related to conversations and sound-generating equipment to a less than significant level.

Off-site Operational Noise

The overall increase in traffic noise from the project was estimated using vehicle trip (VT) data from the Transportation Assessment prepared by F&P for existing conditions (Year 2021) and future with Project conditions (i.e., Year 2029 with the Housing Element Update). These daily VT scenarios are shown in Table 4.7-9.

Table 4.7-9 Daily Vehicle Trip Summary

	Total Daily Vehicle Trips
Baseline Conditions (2021)	697,358
Future with Housing Element Update (2029)	788,283
Change in Vehicle Trips	**+90,925**
Percent Change in Vehicle Trips (%)	**13%**

Source: F&P 2021

As shown in Table 4.7-9, daily VT would increase by approximately 13 percent over existing 2021 conditions by the year 2029 under the Housing Element Update. A 13 percent increase in traffic on a roadway would equate to an increase of 0.5 dBA. Therefore, the project would not double the existing mobile noise source and would not increase noise levels by even the most conservative threshold of 3 dBA, which is considered a barely perceptible noise increase. Although a 13 percent or more increase in traffic may occur at local level in areas where substantial new housing is proposed, a doubling of traffic is still not anticipated to occur based on the citywide increase of 13 percent. Therefore, off-site traffic noise impacts would be an anticipated less than significant.

Land Use Compatibility

Agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. In *California Building Industry Association v. Bay Area Air Quality Management District (2015) 62 Cal. 4th 369*, the California Supreme Court explained that an agency is only required to analyze the potential impacts to future residents if the project would exacerbate those existing environmental hazards or conditions. CEQA analysis is therefore concerned with a project's impact on the environment, rather than with the environment's impact on a project and its users or residents. Therefore, bringing a population into an area where noise currently exists is not a significant environmental impact under CEQA unless doing so would exacerbate noise conditions. Nonetheless, the following analysis of potential exposure to excessive noise is provided for informational purposes.

Implementation of the Housing Element Update would expose future housing development to ambient noise levels that characterize the city, predominantly associated with vehicular traffic. According to the baseline noise contour map in the Burbank2035 General Plan Noise Element, and shown in Figure 4.7-2, land uses along major arterial roadways are exposed to noise levels of approximately 70 CNEL. As shown by Figure 4.8-3, with the city's projected transportation noise increases (e.g., an increase in traffic from future residential, commercial, and industrial uses), a few roadway segments are anticipated to experience a noise level increase between 1 to 4 dBA by the year 2035 based on citywide growth accompanied by an increase in citywide traffic volumes for the year 2035. Based on the City's land use compatibility standards shown in Table 4.7-3, ambient noise up to 60 CNEL is normally acceptable for single-family residences whereas ambient noise up to 65 CNEL is normally acceptable for multi-family residences. Therefore, new housing development could be exposed to noise levels above the normally acceptable range for residences.

The City also has an interior noise standard of 45 CNEL for residences, which is consistent with the State's interior noise standard. According to the 2019 CBC, Title 24, Part 2, Section 1206.4, the proposed multi-family residences must be constructed and designed such that interior noise levels do not exceed 45 CNEL. Generally, any large structure blocking the line of sight (e.g., a concrete block wall on a property's boundary) will provide at least a 5-dBA reduction in source noise levels at the receiver (FHWA 2011). Building materials can also substantially reduce occupants' exposure to noise. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 to 35 dBA with closed windows (FHWA 2011). Modern residential buildings in California are typically constructed with storm windows, single- or double-glazed, that achieve the required energy saving on heating and cooling, which also provide an exterior-to-interior noise level reduction of at least 20 dBA. Based on a noise exposure level of approximately 70 CNEL and a noise attenuation of at least 20 dBA, the interior noise level within new housing development could be up to 50 CNEL. Nonetheless, housing development would be required to comply with the Burbank2035 General Plan Noise Element policies and 2019 CBC, Title 24, Part 2, Section 1206.4, which would collectively govern excessive noise exposure and require that sensitive uses achieve an interior noise level of 45 dBA or less in any habitable room through appropriate sound insulation (e.g., dual-paned windows, exterior doors with solid core and perimeter weather stripping).

Mitigation Measures

No mitigation measures are required.

Threshold 2: Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Impact NOI-3 HOUSING DEVELOPMENT ACCOMMODATED UNDER THE HOUSING ELEMENT UPDATE IS NOT ANTICIPATED TO INVOLVE OPERATIONAL ACTIVITIES THAT WOULD RESULT IN SUBSTANTIAL VIBRATION LEVELS (E.G., USE OF HEAVY EQUIPMENT). HOWEVER, CONSTRUCTION ACTIVITIES UNDER THE HOUSING ELEMENT UPDATE, SPECIFICALLY PILE DRIVING, COULD POTENTIALLY GENERATE VIBRATION EXCEEDING THRESHOLDS FOR BUILDINGS OR STRUCTURES SUSCEPTIBLE TO DAMAGE (E.G., HISTORIC STRUCTURES). HOWEVER, TEMPORARY-CONSTRUCTION RELATED VIBRATION IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

It is not anticipated that operation of housing development would involve activities that would result in substantial vibration levels, such as use of heavy equipment. Operational groundborne vibration in the vicinity of development associated with the Housing Element Update would be primarily generated by vehicular travel on the local roadways. According to the FTA *Transit Noise and Vibration Impact Assessment* (2018) guidance document, rubber tires and suspension systems dampen vibration levels from trucks to a level that is rarely perceptible. Therefore, traffic vibration levels associated with the expected additional trips from the Housing Element Update would not be perceptible by sensitive receivers. Impacts related to operational groundborne vibration would be less than significant. The remainder of this analyses focuses on impacts relate to construction activities associated with future housing development.

Construction activities associated with housing development accommodated by the Housing Element Update would result in varying degrees of groundborne vibration depending on the equipment and methods employed. Operation of construction equipment causes vibration that spreads through the ground and diminishes in strength with distance. Buildings with foundations in the soil in the vicinity of a construction site respond to these vibrations with varying results ranging from no perceptible effects at the lowest levels, low rumbling sounds and perceptible vibrations at moderate levels, and slight damage at the highest levels. Construction vibration is a localized event and is typically only perceptible to a receiver that is in close proximity to the vibration source. Construction for all housing development would require heavy equipment, particularly development on sites with certain geologic conditions that may require pile driving. Such heavy equipment could potentially operate within 25 feet of nearby buildings. As shown in Table 4.7-10, construction equipment would typically generate vibration levels up to 0.21 in./sec. PPV (i.e., vibratory roller) at 25 feet, although pile driving could generate a vibration level of approximately 0.64 in./sec. PPV at 25 feet. Vibration levels shown in bolded and underlined text exceed one or more of the Caltrans criteria shown in Table 4.7-1 and Table 4.7-2.

Table 4.7-10 Construction Equipment Noise Levels

	PPV (in./sec.)				
Equipment	**25 Feet**	**50 Feet**	**75 Feet**	**100 Feet**	**125 Feet**
Pile Driver (Impact)	**0.644**[1,2,3,5]	**0.300**[1,5]	**0.192**[1]	**0.140**[1]	**0.110**[1]
Pile Driver (Sonic)	**0.170**[1]	0.079	0.051	0.037	0.029
Vibratory Roller	**0.210**[1]	0.098	0.063	0.046	0.036
Hoe Ram	0.089	0.042	0.027	0.019	0.015
Large Bulldozer	0.089	0.042	0.027	0.019	0.015
Caisson Drilling	0.089	0.042	0.027	0.019	0.015

	PPV (in./sec.)				
Equipment	**25 Feet**	**50 Feet**	**75 Feet**	**100 Feet**	**125 Feet**
Loaded Truck	0.076	0.036	0.023	0.017	0.013
Jackhammer	0.035	0.016	0.011	0.008	0.006
Small Bulldozer	0.003	0.001	<0.001	<0.001	<0.001

Notes: Vibration levels shown in bolded and underlined text exceed one or more of the Caltrans criteria shown in Table 4.8-1 and Table 4.8-2. Superscripts specify the threshold exceeded by each piece of equipment.

[1] Exceeds the 0.1 in./sec. Caltrans damage threshold for historic sites (and other critical locations).

[2] Exceeds the 0.5 in./sec. Caltrans damage threshold for historic and other/similar old buildings.

[3] Exceeds the 0.5 in./sec. Caltrans damage threshold for older residential structures.

[4] Exceeds the 1.0 in./sec. Caltrans damage threshold for newer residential structures.

[5] Exceeds the 0.25 in./sec. Caltrans human annoyance threshold.

Sources: FTA 2018; Caltrans 2020

According to Caltrans impact criteria shown in Table 4.7-1, the damage threshold for historic sites (which are most sensitive to impacts from groundborne vibration) is 0.12 in./sec. PPV. Groundborne vibration from hoe rams, bulldozers, caisson drilling, loaded trucks, and jackhammers would not exceed the 0.1 in./sec. PPV threshold for sensitive historic sites. While groundborne vibration from vibratory rollers would only exceed the threshold for building damage for historic sites at 25 feet from the source, vibration levels from pile driving would exceed one or more of the building damage thresholds shown in Table 4.7-1 for historic sites, general old buildings, and older and newer residential structures. Furthermore, vibration levels associated with pile driving would also exceed the threshold of 0.25 in./sec. PPV for human annoyance at various distances up to 75 feet, as shown in Table 4.7-10.

As discussed in Section 4.3, *Cultural Resources/Tribal Cultural Resources*, the Downtown TOD inventory possesses 36 parcels with known historic-period buildings whereas the GSSP inventory contains 32 parcels with known historic-period buildings. Although all buildings would be subject to potential impacts from construction vibration, buildings with historic significance would each have varying degrees of susceptibility to groundborne vibration damage depending on the structural integrity of said buildings. Therefore, new residential development accommodated under the Housing Element Update could result in a potentially significant impact related to construction vibration without implementation of the following mitigation measure.

Mitigation Measure

NOI-3 Vibration Control Plan

For construction activities involving vibratory rollers within 50 feet of a structure or pile drivers (impact or sonic) within 140 feet of a structure, the applicant shall prepare a Vibration Control Plan prior to the commencement of construction activities. The Vibration Control Plan shall be prepared by a licensed structural engineer and shall include methods required to minimize vibration, including, but not limited to:

- Alternative installation methods for pile driving (e.g., pile cushioning, drilled piles, cast-in-place systems) within 140 feet of a building to reduce impacts associated with seating the pile
- Vibration monitoring prior to and during pile driving operations occurring within 140 feet of a building

- Use of rubber-tired equipment rather than metal-tracked equipment
- Avoiding the use of vibrating equipment when allowed by best engineering practices

The Vibration Control Plan shall include a pre-construction survey letter establishing baseline conditions at potentially affected extremely fragile buildings/historical resources and/or residential structures. The survey letter shall determine conditions that exist prior to the commencement of construction activities for use in evaluating potential damages caused by construction. Fixtures and finishes susceptible to damage shall be documented photographically and in writing prior to construction. The survey letter shall provide a shoring design to protect such buildings and structures from potential damage. At the conclusion of vibration causing activities, the qualified structural engineer shall issue a follow-up letter describing damage, if any, to impacted buildings and structures. The letter shall include recommendations for any repair, as may be necessary, in conformance with the Secretary of the Interior Standards. Repairs shall be undertaken and completed by the contractor and monitored by a qualified structural engineer in conformance with all applicable codes including the California Historical Building Code (Part 8 of Title 24).

A Statement of Compliance signed by the applicant and owner shall be submitted to the City' Building and Safety Division at plan check and prior to the issuance of any permit. The Vibration Control Plan, prepared as outlined above shall be documented by a qualified structural engineer, and shall be provided to the City upon request.

Significance After Mitigation

Although most construction activities located in the city are not anticipated to have significant vibration impacts, it is possible that some development projects under the Housing Element Update could have significant vibration impacts during construction. This would most commonly occur when a development project using equipment that generates high vibration levels (e.g., pile driving or vibratory roller) would be located next to a historical resource constructed of fragile building materials, which is more sensitive to vibration damage, than structures that were built based on more recent building codes. However, Mitigation Measure NOI-3 would reduce vibration impacts associated with construction activities involving vibratory rollers within 50 feet of a structure or pile drivers (impact or sonic) within 140 feet of a structure. It is anticipated that Mitigation Measure NOI-3 would substantially reduce/control construction such that vibration levels would not exceed the Caltrans vibration criteria for building damage. Therefore, the vibration impacts from construction activities related to the Housing Element Update would be less than significant with mitigation.

Threshold 3:	For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Impact NOI-4 HOUSING DEVELOPMENTS ACCOMMODATED UNDER THE HOUSING ELEMENT UPDATE COULD BE EXPOSED TO INTERMITTENT NOISE LEVELS FROM OVERHEAD FLIGHT PATTERNS FROM SEVERAL AIRPORTS IN THE CITY OR ITS VICINITY. WHILE THE PROJECT WOULD NOT EMPHASIZE BUILDING HOUSING IN THE IMMEDIATE VICINITY OF THE AIRPORT, ALL RESIDENTIAL DEVELOPMENT WOULD, NONETHELESS, BE REQUIRED TO INCORPORATE NOISE INSULATION FEATURES PER STATE AND LOCAL STANDARDS TO REDUCE INTERIOR NOISE LEVELS TO BELOW 45 DBA. THEREFORE, THE IMPACT OF AIRPORT OR AIRSTRIP OPERATIONS ON NEW DEVELOPMENT WOULD BE LESS THAN SIGNIFICANT.

As discussed in Section 4.6, *Hazards and Hazardous Materials*, the Burbank2035 General Plan Safety Element outlines safety policies for the Hollywood-Burbank Airport Influence Area. Similarly, the General Plan Noise Element includes Goal 5, which emphasizes compatibility between airport-generated noise and adjacent land uses and the reduction of aircraft noise on residential areas and noise-sensitive land uses (City of Burbank 2013).

Although the Housing Element Update would not increase air traffic or associated noise from aircraft overflights, housing development accommodated by the Housing Element Update could be proposed within two miles of the Hollywood Burbank Airport. As shown in Figure 2-3, the proposed project includes rezoning within the Burbank Airport Influence Area of the city. The Airport Influence Area is consistent with the airport’s 65 CNEL contour shown in Figure 4.7-4. In particular, one of the potential GSSP sites (i.e., the 678-unit Valhalla site) falls within this area. Therefore, any development at this site, as well as with other housing development located within the Airport Influence Area/65 CNEL contour, would be required to comply with the Burbank2035 General Plan policies, the Los Angeles County ALUP, and 2019 CBC, Title 24, Part 2, Section 1206.4 which collectively govern excessive noise from airport operations and require that sensitive uses achieve an interior noise level of 45 dBA or less in any habitable room. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

4.7.4 Cumulative Impacts

The geographic area to analyze cumulatively considerable noise impacts includes the city and immediately adjacent areas that could be indirectly affected by noise generated in the city.

Construction Noise

Construction of future development projects in the city would produce temporary noise impacts that would be localized to a project site and sensitive receivers within the immediate vicinity. Therefore, only sensitive receivers located in close proximity to each construction site would be potentially affected by each activity. Nonetheless, construction activities associated with individual housing development projects accommodated under the Housing Element Update may overlap for some time with construction activities for other development projects. Typically, if a development site is 500 feet or more away from another site then noise levels would have attenuated to a point that they would not combine to produce a cumulative noise impact. Therefore, construction noise levels would typically become cumulative only if two development sites were to have construction occurring within 500 feet of each other. However, under a worst-case scenario, noise from construction activities for two projects within 1,000 feet of each other could contribute to a cumulative noise impact for sensitive receivers located equidistant between the two construction sites with concurrent on-site activities.

Construction activities associated with future development would comply with Section 9-1-1-105.10 of the BMC and would not occur during nighttime hours between 7:00 p.m. and 7:00 a.m. Monday through Friday, between 5:00 p.m. and 8:00 a.m. on Saturdays, or at any time on Sundays or national holidays. It is anticipated that, with implementation of Mitigation Measures NOI-1a through NOI-1j, construction noise levels associated with housing development could be reduced below the applicable FTA noise limits for construction noise on a case-by-case basis. Nonetheless, larger development projects could combine together, or combine with smaller development projects, to substantially increase noise levels at specific neighboring noise-sensitive receivers. While Mitigation Measures NOI-1a through NOI-1j would reduce construction noise impacts from developments to the extent feasible. Therefore, concurrent construction of development projects accommodated under the Housing Element Update could be cumulatively considerable without implementation of mitigation.

On-site Operational Noise

On-site operational noise impacts are localized to an individual development site and sensitive receivers within the immediate vicinity. Future development in the city would include mechanical equipment, loading, trash pick-up, and other noise-generating activities. However, such activities would be typical of the urban environment in the city and on-site activities would be required to comply with applicable provisions of the BMC. The incremental effect of the Housing Element Update with respect to on-site operational noise would not be cumulatively considerable and cumulative impacts would be less than significant.

Off-site Operational Noise

Cumulative development through the year 2029 would generate vehicle trips, thereby increasing traffic on area roadways. As shown in Table 4.7-8, future daily VT levels by the year 2029 with future development from the Housing Element Update, which accounts for cumulative residential development in the city, would not double existing VT levels or increase mobile noise by more than 3 dBA. Therefore, the effect of the Housing Element Update on off-site traffic noise would not be cumulatively considerable and cumulative impacts would be less than significant.

Groundborne Vibration

Operational groundborne vibration impacts are localized to a project site and sensitive receivers within the immediate vicinity. However, it is not anticipated that new residential development within the city would include substantial sources of operational ground-borne vibration. Therefore, cumulative impacts related to operational ground-borne noise and vibration at any sensitive receiver would not be significant. Impacts related to operational groundborne vibration would not be cumulatively considerable and cumulative impacts would be less than significant.

Construction of future development projects in the city would produce temporary vibration impacts that would be localized to a project site and sensitive receivers in the immediate vicinity. Therefore, only sensitive receivers located in close proximity to each construction site would be potentially affected by each individual activity. Nonetheless, construction activities associated with individual housing development projects from the Housing Element Update may overlap for some time with construction activities for other development projects. For the combined vibration impact from simultaneous construction projects to reach cumulatively significant levels, intense construction from these projects would have to occur simultaneously in close proximity to a sensitive receiver. As such, concurrent construction of development projects accommodated under the Housing Element Update could be cumulatively considerable without implementation of mitigation.

Airport Noise

Aircraft-related noise impacts occur only in the vicinity of airports or airstrips. Although citywide growth could increase the number of people who are exposed to aircraft-related noise impacts, such impacts would be localized in nature. In addition, new residential development would not result in a direct increase to aircraft operations that would increase noise exposure to aircraft overflight patterns within and outside the city. The Housing Element Update would have no contribution to any cumulative impact related to airport hazards or noise. Impacts related to airport or airstrip noise would not be cumulatively considerable and cumulative impacts would be less than significant.

Mitigation Measure

NOI-C1 Construction Building Permits

The City's Community Development Department shall review the locations and anticipated construction timing for housing development projects with respect to the locations of other pending development projects. The City shall stagger the issuance of building permits for development projects with overlapping construction schedules that meet both of the following criteria:

- The development project is located within 1,000 feet of another separate development project; and
- The development project is located 500 feet or less from a sensitive receiver.

In these instances, the Community Development Department shall review the findings of any site-specific noise and vibration studies pertaining to future development projects to compare their locations to sensitive receivers identified therein.

Significance After Mitigation

Under a worst-case cumulative scenario, individual development projects located within 1,000 feet of each other would not generate cumulative construction noise or vibration levels upon sensitive receivers located 500 feet (i.e., equidistant) from these projects. Furthermore, due to the attenuation of construction noise and vibration, intervening buildings and/or structures, the construction noise levels of more distant projects (i.e., with distances greater than 500 feet of each other) would not contribute to a significant cumulative construction noise impact. Mitigation Measure NOI-C1 would substantially reduce/control construction such that vibration levels would not exceed the Caltrans vibration criteria for building damage. Therefore, with implementation of Mitigation Measure NOI-C1, construction noise and vibration impacts would not be cumulative considerable and cumulative impacts would be less than significant with mitigation.

4.8 Population/Housing

This section analyzes the impacts related to population and housing growth.

4.8.1 Environmental Setting

a. City of Burbank

Table 4.8-1 shows the 2021 estimates of population and housing units for Burbank and Los Angeles County. Burbank's current (2021) estimated population is 103,969 persons, a 1.8 percent decrease from its 2020 population of 105,861 (California DOF 2021). The City's population constitutes approximately one percent of the countywide population of 10,044,458; and the City's 45,069 housing units constitute approximately 1.2 percent of the County's 3,614,809 total housing units. The average number of persons per household in the City in 2021 is estimated at 2.45, which is about 16 percent lower than the countywide average of 2.92 persons per household in 2021.

Table 4.8-1 2021 Population, Households, and Housing Unit Estimates

	City of Burbank	Los Angeles County
Population	103,969	10,044,458
Housing Units (Total)	45,069	3,614,809
Housing Units (Occupied) [1]	42,282	3,382,896
Persons/Household Ratio[2]	2.45	2.92

[1] Estimated by applying a derived civilian vacancy rate to the estimated civilian housing units. Vacancy rates are based on 2021 DOF data, adjusted to incorporate the directional changes described by the latest available American Community Survey (ACS) data.

[2] This is a ratio of persons (household) to an occupied housing unit.

Source: California DOF 2021

Table 4.8-2 shows the City and County employment, housing, and population estimates and forecasts from the Southern California Association of Governments (SCAG) SCAG 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) Demographics & Growth Forecast. SCAG projections indicated an increase of 10,431 persons (10 percent), in the City's population over the next 25 years, for an estimated 2045 population of 115,400 residents. This forecasted growth represents approximately 417 new residents per year. Additionally, SCAG projections indicate an increase in the City's number of households by 6,700 (16 percent) over the next 25 year for an estimated 48,600 households in 2045. This forecasted growth represents 268 new households per year (SCAG 2020). There were 2.7 jobs per household in the City in 2016. This ratio is about 89 percent higher than the SCAG estimate of 1.4 jobs per household for Los Angeles County in the same year. This suggests that Burbank is a "jobs rich" community in which more workers commute to the City from other communities for their jobs than residents commute to points outside the City for their jobs. The City's higher ratio in comparison to the County is expected to continue in future years, based on SCAG forecasts.

Table 4.8-2 SCAG Population, Housing, and Employment Forecasts

City of Burbank	2016	2030	2035	2045
Population	105,000	110,200	113,320	115,400
Housing Units	41,900	45,250	47,260	48,600
Employment	114,000	126,350	130,055	138,700
Employment/Housing Ratio	2.7	2.8	2.8	2.9
Los Angeles County	**2016**	**2030**	**2035**	**2045**
Population	10,110,000	10,900,000	11,174,000	11,674,000
Housing Units	3,319,000	3,749,000	3,885,000	4,119,000
Employment	4,743,000	5,060,000	5,172,000	5,382,000
Employment/Housing Ratio	1.4	1.4	1.3	1.3

Source: SCAG 2020

4.8.2 Regulatory Setting

a. State

Housing Element Law: California Government Code Section 65584(a)(1)

Pursuant to California Government Code Section 65584(a)(1), the California Department of Housing and Community Development (HCD) is responsible for determining the regional housing needs assessment (segmented by income levels) for each region's planning body known as a "council of governments" (COG), SCAG being the COG serving the Southern California area. HCD prepares an initial housing needs assessment and then coordinates with each COG to arrive at the final regional housing needs assessment. To date, there have been five previous housing element update "cycles." California is now in its sixth "housing element update cycle." The SCAG RHNA and the City's General Plan Housing Element are discussed further below.

The Sustainable Communities and Climate Protection Act of 2008 (SB 375, Steinberg)

Senate Bill (SB) 375 focuses on aligning transportation, housing, and other land uses to achieve regional greenhouse gas (GHG) emission reduction targets established under the California Global Warming Solutions Act, also known as Assembly Bill (AB) 32. SB 375 requires Metropolitan Planning Organizations (MPO) to develop a Sustainable Communities Strategy (SCS) as part of the Regional Transportation Plan (RTP), with the purpose of identifying policies and strategies to reduce per capita passenger vehicle-generated GHG emissions. As set forth in SB 375, the SCS must: (1) identify the general location of land uses, residential densities, and building intensities within the region; (2) identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period; (3) identify areas within the region sufficient to house an eight-year projection of the regional housing need; (4) identify a transportation network to service the regional transportation needs; (5) gather and consider the best practically available scientific information regarding resource areas and farmland in the region; (6) consider the state housing goals; (7) establish the land use development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, will reduce GHG emissions from automobiles and light-duty trucks to achieve

GHG emission reduction targets set by the California Air Resources Board (CARB), if there is a feasible way to do so; and (8) comply with air quality requirements established under the Clean Air Act.

The City of Burbank is located in the jurisdiction of SCAG, a Joint Powers Agency established under California Government Code Section 6502 et seq. Pursuant to Federal and State law, SCAG serves as a Council of Governments, a Regional Transportation Planning Agency, and the MPO for Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial Counties. SCAG is responsible for preparing the RTP/SCS and RHNA in coordination with other State and local agencies. These documents include population, employment, and housing projections for the region and its 15 subregions.

Existing law requires local governments to adopt a housing element as part of their general plan and update the housing element every four to eight years. SB 375 requires the RHNA to allocate housing units within the region in a manner consistent with the development pattern adopted by the SCS.

On September 3, 2020, SCAG adopted its Connect SoCal: The 2020-2045 RTP/SCS, which is an update to the previous 2016 RTP/SCS (SCAG 2020a). Using growth forecasts and economic trends, the RTP/SCS provides a vision for transportation throughout the region for the next 25 years that achieves the statewide reduction targets and in so doing identifies the amount and location of growth expected to occur within the region.

Housing Crisis Act of 2019 – (SB 330, Skinner)

The Housing Crisis Act of 2019 (SB 330) seeks to speed up housing production in the next half decade by eliminating some of the most common entitlement impediments to the creation of new housing, including delays in the local permitting process and cities enacting new requirements after an application is complete and undergoing local review—both of which can exacerbate the cost and uncertainty that sponsors of housing projects face. In addition to speeding up the timeline to obtain building permits, the bill prohibits local governments from reducing the number of homes that can be built through down-planning or down-zoning or the introduction of new discretionary design guidelines. The bill is in effect as of January 1, 2020 and expires on January 1, 2030.

Fair Employment and Housing Act (FEHA)

The FEHA of 1959 (Government Code Section 12900 et seq.) prohibits housing discrimination on the basis of race, color, religion, sexual orientation, marital status, national origin, ancestry, familial status, disability, or source of income.

The Unruh Civil Rights Act

The Unruh Civil Rights Act of 1959 (Civ. Code Section 51) prohibits discrimination in “all business establishments of every kind whatsoever.” The provision has been interpreted to include businesses and persons engaged in the sale or rental of housing accommodations.

AB 1763

AB 1763, effective January 1, 2020, amends the State Density Bonus Law (Section 65915) to allow for taller and denser 100 percent affordable housing developments, especially those near transit, through the creation of an enhanced affordable housing density bonus.

Housing Element Law: California Government Code Section 65583(c)(7)

Section 65583 of the California Government Code requires cities and counties to prepare a housing element, as one of the state-mandated elements of the General Plan, with specific direction on its content. Pursuant to Section 65583(c)(7), the Housing Element must develop a plan that incentivizes and promotes the creation of accessory dwelling units that can be offered at affordable rent, as defined in Section 50053 of the Health and Safety Code, for very low, low-, or moderate-income households.

Housing Element Law: California Government Code Section 65583.2(g)(3)

Pursuant to California Government Code Section 65583.2(g)(3), the Housing Element is required to include a program to impose housing replacement requirements on certain sites identified in the inventory of sites. Under these requirements, the replacement of units affordable to the same or lower income level, consistent with those requirements set forth in State Density Bonus Law (Government Code Section 65915(c)(3)), would be required.

Relocation Assistance: California Government Code Section 7261(a)

Section 7261(a) of the California Government Code requires that programs or projects undertaken by a public entity must be planned in a manner that (1) recognizes, at an early stage in the planning of the programs or projects and before the commencement of any actions which will cause displacements, the problems associated with the displacement of individuals, families, businesses, and farm operations, and (2) provides for the resolution of these problems in order to minimize adverse impacts on displaced persons and to expedite program or project advancement and completion. The displacing agency must ensure the relocation assistance advisory services are made available to all persons displaced by the public entity. If the agency determines that any person occupying property immediately adjacent to the property where the displacing activity occurs is caused substantial economic injury as a result of the displacement, the agency may also make the advisory services available to that person.

b. Regional

Regional Housing Needs Assessment

California's Housing Element law requires that a local jurisdiction accommodate a share of the region's projected housing needs for the planning period. This share, called RHNA, is important because State law mandates that jurisdictions provide sufficient land to accommodate a variety of housing opportunities for all economic segments of the community. Compliance with this requirement is measured by the jurisdiction's ability to provide adequate land to accommodate the RHNA. SCAG, as the regional planning agency, is responsible for allocating the RHNA to individual jurisdictions within the six-county region: Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial. For the 2021-2029 Housing Element, the RHNA will cover the planning period October 2021 through October 2029. The RHNA is distributed by income category. For the City's 2021-2029 Housing Element update, Burbank is allocated a RHNA of 8,772 units, as shown in Table 4.8-3. During the current RHNA reporting period (2014-2021), the City has adopted the 2017 Affordable Housing Strategy to facilitate the building of 12,000 units through 2035, acquired and rehabilitated 27 very low-income units with affordability covenants, approved three mixed-use projects providing 1,089 new apartments (including 82 moderate income units), adopted new accessory dwelling units (ADU) producing more than 350 ADUs as of April 2021 approved development of 96 affordable housing units with 86 additional lower income units currently under review, initiated the Golden State and Downtown Burbank Metrolink Station Transit Oriented Development specific plans, adopted a Homelessness Plan for 2018-2021, adopted an eviction moratorium for non-payment of rent related to the COVID-19 pandemic and a Rent Repayment Ordinance, and maintained ongoing dialogue with property owners to extend affordability controls on two at-risk projects.

Table 4.8-3 Burbank 2021-2029 Regional Housing Needs Assessment

Income Group	RHNA Allocation (units)	Percent of Total
Very Low	2,553	29%
Low	1,418	16%
Moderate	1,409	16%
Above Moderate	3,392	39%
Total	8,772	100%

Source: SGAG 2021

Regional Transportation Plan/Sustainable Communities Strategy

SCAG's RTP/SCS is a long-range regional transportation and land use network plan that looks ahead 20+ years and provides a vision of the region's future mobility and housing needs with economic, environmental, and public health goals. The RTP identifies major challenges as well as potential opportunities associated with growth, transportation finances, the future of airports in the region, and impending transportation system deficiencies that could result from growth that is anticipated in the region. SCAG adopted its current RTP/SCS on September 3, 2020 (SCAG 2020).

c. Local Regulations

Burbank 2014-2021 Housing Element

The City's Housing Element fulfills the 2014-2021 update cycle for jurisdictions in the SCAG region that covers the planning period from January 1, 2014 through October 1, 2021. The Housing Element ensures that the City establishes policies, procedures and incentives in its land use planning and development activities that result in the maintenance and expansion of the housing supply to adequately accommodate the City's housing needs. As required by State law, the Housing Element identifies strategies and programs that focus on: (1) conserving and improving existing affordable housing; (2) providing adequate housing sites to accommodate future housing needs for all income segments of the community; (3) assisting in the development of affordable housing; (4) removing governmental constraints to housing development; and (5) promoting equal housing opportunities for all Burbank residents (Burbank 2014).

4.8.3 Environmental Impacts

a. Thresholds of Significance

Thresholds of significance are based on the questions in Appendix G of the CEQA Guidelines. The Initial Study prepared for the Project (Appendix B) determined that a potentially significant impact might occur under the following threshold.

1. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)
2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere

The Initial Study found no potentially significant impacts related to displacement; therefore, this issue is not studied further herein.

b. Methodology

Although CEQA requires an EIR to consider its growth-inducing impacts, CEQA provides that the EIR "should not assume that growth is necessarily beneficial, detrimental, or of little significance." The underlying purpose of the Housing Element Update is to accommodate housing needs, which includes needs as a result of population growth and existing growth in the City. Even substantial growth is not a significant impact if it accommodates growth projections for the City that can be accommodated by existing or planned facilities and services, and is consistent with the City's General Plan, as well as State and regional policies and regulations. As such, a significant impact for purposes of this threshold is whether the updates to the Housing Element will induce unplanned growth.

c. Project Impacts

Threshold 1: Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Impact POP-1 REASONABLY FORESEEABLE DEVELOPMENT UNDER THE HOUSING ELEMENT UPDATE WOULD BE CONSISTENT WITH THE 2021-2029 RHNA AND THE 2035 GENERAL PLAN BUT WOULD EXCEED SCAG 2020 RTP/SCS POPULATION FORECASTS. THE HOUSING ELEMENT UPDATE WOULD UPDATE THE 2035 GENERAL PLAN TO BE CONSISTENT WITH BURBANK'S RHNA, AND SCAG'S NEXT RTP/SCS WOULD INCORPORATE THE CITY'S GENERAL PLAN UPDATES. THE CITY WOULD HAVE ADEQUATE HOUSING CAPACITY TO FACILITATE THE 10,456 NEW UNITS ASSUMED AS PART OF THE HOUSING ELEMENT UPDATE. THE HOUSING ELEMENT UPDATE WOULD NOT INDUCE UNPLANNED GROWTH DIRECTLY OR INDIRECTLY, AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.

Burbank is a largely built-out community with few remaining vacant parcels open for future development. As such, the Housing Element would primarily accommodate new housing units on infill sites, which would increase development density in portions of the City. The RHNA allocation is intended to accommodate forecasted population growth.

As described in Section 2.5.2, *RHNA Allocation*, the estimated net housing units that can be counted based on entitled and pending projects, opportunity sites with existing General Plan and zoned capacity, accessory dwelling units, and committed assistance, would fall short of the RHNA allocation by 2,391 units. To make up for this shortfall, the Housing Element includes a housing program to amend the General Plan and adopt the Downtown TOD and the GSSP within three years from the start of the eight-year 2021-2029 planning period, which would provide the necessary zoning, objective development standards, and processing procedures to facilitate the production of housing required to accommodate the City's RHNA along with the required sites buffer. In addition to the housing accommodated under the Housing Element Update, the proposed zone changes would accommodate up to about 1.4 million square feet of additional commercial development and 1,534 associated jobs (please see Table 2-5 for the calculation of square footage and jobs). These additional jobs would primarily be in the office/media production, retail, and service industry and would likely be filled by the existing labor force or by the new residents anticipated in the new housing units accommodated by the Housing Element Update.

The City of Burbank has a current population of 103,969 with an average household size of 2.45 (DOF 2021). Based on the average household size of 2.45, the increase of 10,456 residential units would generate a population increase of approximately 25,617 residents. This would increase the City's population to 129,586. This population increase would be approximately 12 percent higher than SCAG's forecast population of 115,400 persons by 2045. Although the Housing Element Update would facilitate development beyond RTP/SCS forecasts, the next RTP/SCS update would reflect new forecasts for each jurisdiction in the region based on their RHNA allocation.

Burbank's Land Use Element forecasts an estimated city-wide buildout capacity of 61,647 residential units (City of Burbank 2013). With the addition of the 10,456 new units anticipated through this Housing Element update, the City would have 55,525 total residential units, 6,122 lower than Burbank's estimated residential capacity. Adoption and implementation of the Housing Element would not induce growth beyond that already anticipated in the current Land Use Element.

The Housing Element Update would be consistent with State requirements for the RHNA. Although the Housing Element Update would facilitate development beyond what is forecast in SCAG's 2020 RTP/SCS, it would bring the forecasts for the City's General Plan and the RTP/SCS into consistency since the RTP/SCS will be updated to reflect new forecasts for each city in the region. Additionally, the Housing Element Update would be consistent with ongoing planning in the City through the adoption of the Downtown TOD and the GSSP.

The State requires that all local governments adequately plan to meet the housing needs of their communities. The proposed element provides appropriate guidance for the residential growth that would occur with or without project implementation. The Housing Element Update focuses on expanding housing opportunities for all segments of the population and improving the quality of existing housing stock. Therefore, the Housing Element would not induce substantial unplanned population growth in the City by identifying future actions to increase capacity for the future development of new dwelling units, as necessary to meet State housing law requirements, and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

4.8.4 Cumulative Impacts

The Housing Element Update would accommodate all projected citywide population and housing growth through 2029. Employment growth associated with commercial development primarily in the Downtown TOD and the GSSP would be mostly filled by the existing workforce and new residents anticipated in the new housing units and would not induce substantial population growth. Therefore, cumulative impacts relating to population and housing would be the same as project impacts under Impact POP-1 and would be less than significant. The Housing Element Update incorporates regional growth anticipated by SCAG's RHNA projections and thus considers cumulative growth.

State laws require local governments to regularly assess and plan for future growth. For example, SCAG is required to update its RTP/SCS and accompanying growth projections every four years and the City is required to update its Housing Element, and correspondingly conduct a RHNA, every other RTP/SCS cycle, or every eight years. In turn, individual development projects that exceed zoning code and land use designation requirements would be assessed for consistency with SCAG projections through the environmental review process. Therefore, it is not anticipated that future cumulative development would induce population growth exceeding projections incorporated into the City's Housing Element Update planning efforts.

The Housing Element would provide for a planned increase in the City's housing capacity to meet the City's RHNA allocation and additional units for the unmet need from the 5th Cycle Housing Element. The Housing Element Update would not propose any housing development but would include zone changes that would facilitate increased residential and commercial density and intensity on selected opportunity sites consistent with Project objectives. The Housing Element would identify a series of implementation actions to facilitate future housing development, as necessary to meet the City's housing obligations per State law. Future housing development facilitated by the Project would be subject to City development review and permitting and would be required to undergo applicable CEQA review and compliance with the City's General Plan before their approval. This would ensure that any potential environmental effects stemming from their development would be minimized to the extent feasible. The projected growth of housing units associated with future development facilitated by the Housing Element would also be less than the City's estimated housing capacity under the existing General Plan. As previously mentioned, due to the active global pandemic related to COVID-19, and the resulting slowdown in the national, state, and local economy, which is projected to result in a significant and sustained recession, it is likely that the initial growth forecasts from the State and SCAG as presented in this analysis are overstated and that actual population growth will end up being less. Cumulative impacts associated with Housing Element implementation would therefore be less than significant.

4.9 Public Services

This section analyzes impacts related to the provision of public services, including fire protection services, police protection services, schools, parks, and library facilities.

4.9.1 Environmental Setting

a. Fire Protection

The Burbank Fire Department (BFD) provides fire protection services in Burbank. The BFD consists of seven divisions, including: Fire Prevention Bureau, Fire Suppression, Emergency Medical Services, Emergency Management, Fire Apparatus and Equipment, Training and Safety, and Administration. A total of 136 personnel makes up the BFD, which has jurisdiction over all fires and life-threatening incidents within the City (BFD 2021). The firefighter-to-1,000 resident population ratio citywide and for the fire stations in Burbank is 1.31 firefighters/1,000 residents. If the City has a fire emergency for which the BFD does not have sufficient resources, a statewide system of mutual aid can provide services. These aid requests are processed through the California Emergency Management Agency and under this system, the City is to rely on its own resources and neighboring jurisdiction’s resources before calling for outside assistance. BFD also has mutual aid agreements with the Los Angeles County Fire Department and Los Angeles City Fire Department. Additionally, BFD has automatic mutual aid through Area C Unified Response with the cities of Alhambra, Arcadia, Hollywood-Burbank Airport, Glendale, Montebello, Monrovia, Monterey Park, Pasadena, San Gabriel, San Marino, Sierra Madre, South Pasadena, and Vernon.

The BFD, reviews site plans, construction plans, and architectural plans prior to occupancy to ensure that required fire protection safety features, including building sprinklers and emergency access, are implemented. Development with modern materials and in accordance with current standards, inclusive of fire-resistant materials, fire alarms and detection systems, automatic fire sprinklers, would enhance fire safety and would support fire protection services (Title 24, Cal. Code Regs. Part 9).

The City is divided into six geographical fire districts. Each fire district is served by a fire station and defines the first-due response area for each station. The Burbank Fire Headquarters and the six fire stations are described below.

Burbank Fire Headquarters

The Burbank Fire Headquarters is located at 311 East Orange Grove Avenue. This building is a combined Police and Fire Headquarters building.

Fire Station 11

Fire Station 11 is located at 311 East Orange Grove Avenue. This station houses Engine 11, Truck 11, Rescue Ambulance 11, and Battalion 1. The BFD’s mechanic shop is also located within Fire Station 11. Truck 11 includes four staff persons (Captain, Engineer and two Firefighters). Engine 11 includes four staff persons (Captain, Engineer and two Firefighters). Rescue Ambulance 11 includes two Firefighters/Paramedics. Battalion 1 includes one Battalion Chief.

Fire Station 12

Fire Station 12 is located at 644 North Hollywood Way. This station houses an engine and truck company. Engine 12 includes four staff persons (Captain, Engineer and two Firefighters). Truck 12 includes four staff persons (Captain, Engineer and two Firefighters). Hazmat 12 includes four staff persons (Captain, Engineer and two Firefighters). Hazmat 12 is also Staffed by crossover personnel from Truck 12. The Hazardous Materials Division is also located in this station. The crew of Engine 12 will switch to Hazardous Materials 12 as needed. This station is first in response to Warner Bros. Studios and the Warner Bros. Ranch, as well as several high-rise office buildings.

Fire Station 13

Fire Station 13 is located at 2713 Thornton Avenue. This station houses an engine and a rescue ambulance. Engine 13 includes four staff persons (Captain, Engineer and two Firefighters). Rescue ambulance 13 includes is staffed by two Firefighters/Paramedics.

Fire Station 14

Fire Station 14 is located at 2305 West Burbank Boulevard. This station is home to a single fire engine. Engine 14 incudes 3 staff persons (Captain, Engineer and one Firefighter). This station maintains and repairs the self-contained breathing apparatus (SCBA), as well as tests all firefighters in the correct fit of the SCBA masks.

Fire Station 15

Fire Station 15 is located at 1420 West Verdugo Avenue. This station is home to Engine 15 and Rescue Ambulance 15. Engine 15 includes three staff persons (Captain, Engineer and one Firefighter). Rescue ambulance includes two staff Firefighters/Paramedics. This station handles the majority of the Emergency Medical Services.

Fire Station 16

Fire Station 16 is located at 1600 North Bel Aire Drive. This station houses an engine and a water tender. Station 16 includes three staff persons (Captain, Engineer and one Firefighter).

b. Police Protection

The Burbank Police Department (BPD) provides police protection services within the City limits. BPD currently has 160 sworn officers. Based on Burbank’s current population of 103,969, the BPD employs 1.54 officers per 1,000 residents. The BPD is made up of five divisions, including: patrol, investigations, administrative services, support services, and budget and finance. The Patrol Division receives and responds to all calls for emergency services, conducts initial investigations and appropriate follow-up, prevents crime through directed and non-directed patrols, and prepares documentation on all calls for service and police reports. The BPD operates five facilities: a Police Headquarters, an animal shelter, a police pistol range, the City Jail, and a heliport in Sun Valley. Similar to the BFD, the BPD maintains mutual aid relationships with police departments for the Cities of Los Angeles, San Fernando, Glendale, and Pasadena. As part of the State Emergency Aid System, the BPD will also provide officers and equipment to other jurisdictions in the event of an emergency. The Los Angeles County Sheriff’s Department of the California Emergency Management Agency can also provide aid, if needed.

c. Schools

The City is within the jurisdiction of the Burbank Unified School District (BUSD), which provides public school services to Burbank residents for grades kindergarten through 12. BUSD oversees eleven elementary schools, three middle schools, three high schools, and alternative schools that offer child development, special education, independent learning, and adult education programs. Schools within BUSD have a combined student capacity of 16,028. Table 4.9-1 shows the current enrollment and capacity of the schools within the BUSD.

Table 4.9-1 BUSD Student Enrollment and Capacity

School Name	Current Enrollment	Enrollment Capacity	Remaining Capacity
Elementary Schools			
Bret Harte	557	600	43
George Washington	468	496	28
Joaquin Miller	724	760	36
Providencia	404	440	36
R. L. Stevenson	600	632	32
Ralph Emerson	606	632	26
Theodore Roosevelt	585	600	15
Thomas Edison	526	600	74
Thomas Jefferson	726	736	10
Walt Disney	401	444	43
William McKinley	454	468	14
Total	**6,051**	**6,408**	**357**
Middle Schools			
Dolores Huerta	1,061	1,250	189
John Muir	1,424	1,500	76
Luther Burbank	897	1,200	303
Total	**3,382**	**3,950**	**568**
High Schools			
Burbank	2,487	2,700	213
John Burroughs	2,450	2,700	250
Monterey High School	108	270	162
Total	**5,045**	**5,670**	**625**
Additional Schools in District			
Community Day School	17	50	33
Total	**17**	**50**	**33**
Grand Total	**14,478**	**16,028**	**1,550**

BUSD 2021

d. Parks

Burbank contains nearly 2,700 acres of designated open space, including approximately 732 acres of improved parkland. Wildwood Canyon Park and Stough Canyon Park are the two largest parks in the

City, at 500 acres and approximately 100 acres, respectively. These regional parks are located in the Verdugo Mountains and are less developed than other parks in the City, particularly those located in the flat developed portions of Burbank. The remaining open space is located primarily in the Verdugo Mountains. This acreage connects to approximately 60,000 acres of additional open space managed by the Santa Monica Mountains Conservancy. 26 parks are located within Burbank, ranging in size from pocket parks less than 0.25 acre up to a 500-acre regional park. Based on the existing population of 103,969 in 2021, there are approximately 7.0 acres of parkland for every 1,000 Burbank residents.

e. Libraries

The Burbank Public Library was founded in 1913 and has three locations: Central, Buena Vista, and Northwest. The Library lends material in a variety of formats, including eBooks, and offers programs for all ages on subjects ranging from arts and literature to science, technology, and current events. Flagship programs include a volunteer-based tutoring program for adults who read below an 8th grade level, the Spark! Digital Media Lab, and the Burbank in Focus collection of digitized historical photos. The Library is supported by a volunteer corps and Friends of the Library group and also coordinates the Sister City program on behalf of the City of Burbank. During the 2018-2019 fiscal year, the Burbank Public Library received 720,994 visits to the branches (Burbank Public Library 2020)

4.9.2 Regulatory Setting

a. Federal Policies

Occupational Safety and Health Administration

The Federal Occupational Safety and Health Administrations (OSHA) as well as California OSHA (Cal-OSHA) enforce the provisions of the Federal and State Occupational Safety and Health Acts, respectively, which collectively require safety and health regulations for construction under Part 1926 of Title 29 Code of Federal Regulations (CFR). The fire-related requirements of the Federal Occupational Safety and Health Act are specifically contained in Subpart F, Fire Protection and Prevention, of Part 1926. Examples of general requirements related to fire protection and prevention include maintaining fire suppression equipment specific to construction on-site; providing a temporary or permanent water supply of sufficient volume, duration, and pressure; properly operating the on-site fire-fighting equipment; and keeping storage sites free from accumulation of unnecessary combustible materials.

Federal Emergency Management Act (FEMA)

FEMA was established in 1979 via executive order and is an independent agency of the federal government. In March 2003, FEMA became part of the U.S. Department of Homeland Security with the mission to lead the effort in preparing the nation for all hazards and effectively manage federal response and recovery efforts following any national incident. FEMA also initiates proactive mitigation activities, trains first responders, and manages the National Flood Insurance Program and the U.S. Fire Administration.

Disaster Mitigation Act of 2000

Disaster Mitigation Act (42 United States Code [U.S.C.] Section 5121) provides the legal basis for FEMA mitigation planning requirements for state, local, and Indian Tribal governments as a condition of mitigation grant assistance. It amends the Robert T. Stafford Disaster Relief Act of 1988 (42 U.S.C. Section 5121-5207) by repealing the previous mitigation planning provisions and replacing them with a new set of requirements that emphasize the need and creates incentives for state, tribal, and local agencies to closely coordinate mitigation planning and implementation efforts. This Act reinforces the importance of pre-disaster infrastructure mitigation planning to reduce disaster losses nationwide and the streamlining of the administration of Federal disaster relief and programs to promote mitigation activities. Some of the major provisions of this Act include:

- Funding pre-disaster mitigation activities
- Developing experimental multi-hazard maps to better understand risk
- Establishing state and local government infrastructure mitigation planning requirements
- Defining how states can assume more responsibility in managing the Hazard Mitigation Grant Program (HMGP)
- Adjusting ways in which management costs for projects are funded

The mitigation planning provisions outlined in Section 322 of this Act establish performance-based standards for mitigation plans and require states to have a public assistance program (Advance Infrastructure Mitigation [AIM]) to develop county government plans. The consequence for counties that fail to develop an infrastructure mitigation plan is the chance of a reduced Federal share of damage assistance from 75 percent to 25 percent if the damaged facility has been damaged on more than one occasion in the preceding 10-year period by the same type of event.

b. State Policies

Fire Services

California Occupational Safety and Health Administration

In accordance with California Code of Regulations Title 8 §1270 "Fire Prevention" and §6773 "Fire Protection and Fire Equipment" the California Occupational Safety and Health Administration has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hose sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all fire-fighting and emergency medical equipment.

2010 California Strategic Fire Plan (Fire Plan)

The Fire Plan is a cooperative effort between the State Board of Forestry and Fire Protection and the California Department of Forestry and Fire Protection. By placing the emphasis on what needs to be done before a fire starts, the Fire Plan looks to reduce firefighting costs and property losses, increase firefighter safety, and to contribute to overall ecosystem health. The central goals that are critical to reducing and preventing the impacts of fire revolve around both suppression efforts and fire prevention efforts. The Fire Plan addresses:

- Improved availability and use of information on hazard and risk assessment

- Land use planning: Development of wildland and Wildland Urban Interface protection policies, incorporating minimum key elements of a fire safe community, and promote the consolidation of project-level land use planning and wildland fire occurrence data
- Shared vision among communities and the multiple fire protection jurisdictions, including county-based plans and community-based plans such as Community Wildfire Protection Plans
- Establishing fire resistance in assets at risk, such as homes and neighborhoods Shared vision among multiple fire protection jurisdictions and agencies
- Levels of fire suppression and related services
- Post-fire recovery

California Fire Code (Title 24, Part 9, California Code of Regulations)

The California Fire Code incorporates the Uniform Fire Code (UFC) with necessary California amendments. This Code prescribes regulations consistent with nationally recognized good practices for the safeguarding, to a reasonable degree, of life and property from the hazards of fire explosion. It also addresses dangerous conditions arising from the storage, handling, and use of hazardous materials and devices; conditions hazardous to life or property in the use or occupancy of buildings or premises; and provisions to assist emergency response personnel.

California Building Code

The 2019 California Building Code (CBC) became effective January 1, 2017, including Part 9 of Title 24, the California Fire Code. Section 701A.3.2 of the CBC requires that new buildings located in any Fire Hazard Severity Zone in State Responsibility Areas, any Local Agency Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted, comply with all sections of the Chapter.

California Health and Safety Code (Sections 13000 et seq.)

This Code establishes State fire regulations, including regulations for building standards (also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

California 2015 Emergency Services Act

The State passed legislation authorizing the Office of Emergency Services (OES) to prepare a Standard Emergency Management System (SEMS) program, which sets forth measures by which a jurisdiction should handle emergency disasters. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

Police Services

California Penal Code

All law enforcement agencies within the State of California are organized and operated in accordance with the applicable provisions of the California Penal Code. This code sets forth the authority, rules of conduct, and training for peace officers. Under State law, all sworn municipal and county officers are state peace officers.

California Constitution Article XIII, Section 35

Section 35 of Article XIII of the California Constitution was adopted by the voters in 1993 under Proposition 172. Proposition 172 directed the proceeds of a 0.50-percent sales tax to be expended exclusively for local public safety services. California Government Code Sections 30051-30056 provide rules to implement Proposition 172. Public safety services include police protection. Section 30056 provides that cities are not allowed to spend less of their own financial resources on their combined public safety services in any given year compared to the 1992-93 fiscal year. Therefore, an agency is required to use Proposition 172 to supplement its local funds used on police protection, as well as other public safety services. Section 35 at subdivision (a)(2) provides: "The protection of public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services." In City of Hayward v. Board of Trustees of California State University (2015) 242 Cal. App. 4th 833, the court found that Section 35 of Article XIII of the California Constitution requires local agencies to provide public safety services, including police protection, and that it is reasonable to conclude that the city will comply with that provision to ensure that public safety services are provided.

School Services

California Government Code Section 65995 (California Government Code, Title 7, Chapter 4.9)

California Government Code Section 65995 authorizes school districts to collect impact fees from developers of new residential and commercial/industrial building space. Section 65995 was established under the School Facilities Act of 1986 and refined and amended by the Leroy F. Greene School Facilities Act of 1998 (SB 50) to provide further guidance and restrictions on fee limits and fee types. The maximum fees authorized under SB 50 apply to zone changes, general plan amendments, zoning permits and subdivisions. The payment of school impact fees by developers are deemed to provide full and complete mitigation of school facilities impacts, notwithstanding any contrary provisions in CEQA or other State or local laws. BUSD determines fees annually in accordance with California Government Code Section 65995.

Comprehensive School Safety Plan

It Comprehensive School Safety Plan's intent that all California public schools that offer kindergarten and/or grades 1 through 12 that are inclusive and that are operated by school districts develop a comprehensive school safety plan that addresses the safety concerns identified through a systematic planning process. The schools must work in cooperation with local law enforcement agencies, community leaders, parents, pupils, teachers, administrators, and other persons who may be interested in the prevention of campus crime and violence (California Education Code, Title 1, §32280).

California Education Code

Educational services and school facilities are subject to the rules and regulations of the California Education Code, the California Department of Education (CDE) and governance of the State Board of Education (CBE) (Gov. Code Section 33000, et seq.). The CDE is the government agency responsible for public education throughout the State. With the State Superintendent of Public Instruction, the CDE is responsible for enforcing education law and regulations and for continuing to reform and improve public elementary school, secondary school, childcare programs, adult education, and preschool programs. The CDE oversees funding, and student testing and achievement levels for all state schools. A sector of the CDE, the SBE is the 11-member governing and policymaking body of the California Department of Education (CDE) that sets Kindergarten through 12th Grade (K–12) education policy in the areas of standards, instructional materials, assessment, and accountability. The State also provides funding through a combination of sales and income taxes. In addition, pursuant to Proposition 98, the State is also responsible for the allocation of educational funds that are acquired from property taxes. Further, the governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities.

Senate Bill 50

The Leroy F. Greene School Facilities Act of 1998 (known as the Greene Act), enacted in 1998, is a program for funding school facilities largely based on matching funds. For new school construction, grants provide funding on a 50/50 State and local match basis. For school modernization, grants provide funding on a 60/40 State and local match basis. Districts that are unable to provide some, or all, of the local match requirement and are able to meet the financial hardship provisions may be eligible for additional State funding.

The Greene Act permits the local district to levy a fee, charge, dedication, or other requirement against any development project within its boundaries, for the purpose of funding the construction or reconstruction of school facilities. The Act also sets a maximum level of fees a developer may be required to pay. Pursuant to Government Code Section 65996, the payment of these fees by a developer serves to mitigate all potential impacts on school facilities that may result from implementation of a project to a less-than-significant level.

Class Size Reduction Kindergarten-University Public Education Facilities Bond Act of 1998

Proposition 1A, the Class Size Reduction Kindergarten-University Public Education Facilities Bond Act of 1998 (Ed. Code, Section 100400–100405) is a school construction funding measure that was approved by the voters on the November 3, 1998 ballot. This Act created the School Facility Program where eligible school districts may obtain state bond funds.

c. Local Regulations

Burbank Development Impact Fees

The City of Burbank requires the payment of development impact fees (DIFs) that are meant to offset the impacts of new developments on City facilities. As stated in BMC Article 22, Community Facility Fees (also known as DIFs) are collected for the purpose of financing capital improvements within the following categories: transportation improvement fees, library fees, park and recreation fees (except fees charged in lieu of park land dedication pursuant to Government Code Section 66477), police fees, and fire fees. Per BMC Section 10-1-2204, Definitions, DIFs are collected for the purpose of defraying all or a portion of the cost of certain capital improvements related to a development project. Per BMC Section 10-1-2208, DIFs shall be used exclusively for the capital improvements for which the development fees were collected. These fees do not usurp Park and Recreation fees charged in lieu of park land dedication pursuant to Government Code Section 66477, Quimby Act. The current rates for DIFs are specified within Article VIII, Electrical and Building

Permits, Section 3, Development Impact Fees, of the City's Adopted Citywide Fee Schedule. Fees are determined at a rate per square foot; the square footage of the development determines the total fee to be paid. A portion of development fees collected by the City are distributed to public facilities, including fire protection facilities, library facilities, parks and recreation facilities, and police protection facilities.

Burbank Fire Department Plan Checks and Building Inspections

Fire system plan checks are required and performed by the BFD Fire Prevention Bureau for all commercial and residential occupancies. Plan checks of fire systems include automatic fire sprinkler systems, fire alarm systems, and architectural plan reviews. Fire system plans must be submitted by a contractor who has paid the Contractor's City Business Tax.

The BFD Fire Prevention Bureau is also responsible for conducting life safety inspections of new building construction, building tenant improvements or re-models, fire sprinkler systems, fire alarm systems and special protection systems for compliance with the California Fire Code as amended by the BMC. The fee for these inspections must be paid by the project applicant.

Burbank Municipal Code Title 9, Chapter 2 – Fire Prevention

This City code section discusses fire prevention and building regulations as they apply to fire prevention. The section points to the California Fire Code as a reference.

City of Burbank Natural Hazard Mitigation Plan (2011)

The hazard mitigation plan addresses natural hazards such as wind storms, localized stormwater drainage floods, earthquakes, fires, landslides, and major floods. The Plan is designed to meet requirements set by the Federal Emergency Management Agency (FEMA) regarding FEMA funding for mitigation projects.

Burbank2035 General Plan

The Burbank2035 General Plan Safety Element's main objective is to introduce safety considerations into the planning process to reduce the potential loss for life, injuries, damage to property, or economic and social dislocation resulting from fire, geologic hazard, or seismic hazards. The Safety Element's discussion of fire services is generally geared toward planning for effective confrontation of wildfires (Burbank2035 2013).

Table 4.9-2 details specific policies relating to fire protection, police protection, crime prevention, and open space and conservation within the General Plan's Safety Element and Open Space and Conservation Element.

Table 4.9-2 Burbank2035 General Plan Policies Relating to Public Services

General Plan Policy	Description of Policy
Police Protection	
Policy 2.1	Maintain an average police response time of less than 4 minutes to emergency calls for service.
Policy 2.2	Ensure adequate staffing, facilities, equipment, technology, and funding for the Burbank Police Department to meet existing and projected service demands and response times.
Policy 2.3	Provide and use up-to-date technology to improve crime prevention.
Policy 2.4	Develop and support crime prevention programs throughout the city, including the Crime Prevention Through Environmental Design (CPTED) and Neighborhood Watch programs.
Policy 2.5	Provide public education from neighborhood safety programs to encourage active participation by Burbank residents and businesses.
Crime Prevention	
Policy 3.1	Adapt to changing safety needs of the community.
Policy 3.2	Reduce opportunities for criminal activity through physical design standards such as CPTED and youth programs, recreation opportunities, education programs, and counseling services.
Fire Protection	
Policy 4.1	Maintain a maximum response time of 5 minutes for fire suppression services. Require new development to ensure that fire response times and service standards are maintained.
Policy 4.2	Provide adequate staffing, equipment, technology, and funding for the Burbank Fire Department to meet existing and projected service demands and response times.
Policy 4.3	Implement fire prevention and suppression programs in areas of high fire hazard risk, including both urban and wildland areas.
Policy 4.4	Maintain adequate fire breaks in areas within and adjacent to areas of high wildfire risk.
Policy 4.5	Coordinate firefighting efforts with local, state, and federal agencies.
Policy 4.6	Reduce fire hazards associated with older buildings, multi-story structures, and industrial facilities.
Policy 4.7	Maintain adequate fire suppression capability in areas of intensifying urban development, as well as areas where urban uses and open spaces mix.
Open Space and Conservation	
Policy 2.1	Identify areas of the city that are currently underserved and focus park expansion and open space acquisition in these areas.
Policy 2.2	Provide a community or neighborhood park within 1/2 mile of all Burbank residences.
Policy 2.3	Provide park and recreation facilities at a minimum level of 3 acres per 1,000 persons, with the goal of 5 acres per 1,000 persons.
Policy 2.4	Seek opportunities to develop additional parks and open space in areas where needed, including pocket parks, dog parks, athletic fields, amphitheaters, gardens, and shared facilities.
Policy 3.1	Improve and rehabilitate existing parks and recreation facilities.
Policy 3.2	Improve existing athletic fields with lights, equipment, and seating.
Policy 3.3	Develop a clear and unified system of identification and directional signs for all park and recreation facilities.
Policy 3.4	Provide low-maintenance, vandal-resistant parks, recreation facilities, and equipment.
Policy 3.5	Provide adequate lighting in parking areas to ensure user safety.

General Plan Policy	Description of Policy
Policy 3.6	Improve and maintain access to accommodate persons with disabilities at all parks.
Policy 3.7	Ensure that the public transit system connects parks and recreation facilities to the rest of the community.
Policy 4.1	Provide a variety of arts, cultural, historical, fitness, and environmental education programs at parks and recreation facilities.
Policy 4.2	Enhance and expand existing recreation programs in response to changing community demographics and needs.
Policy 4.3	Continue the joint use of facilities owned by the Burbank Unified School District.
Policy 4.4	Continue the use of “drop-in” centers in existing and future recreation facilities.
Policy 4.5	Ensure that buildings, equipment, fields, and other recreation amenities are in full use and capable of accommodating changing program demands.

Source: Burbank 2013

4.9.3 Environmental Impacts

a. Thresholds of Significance

Thresholds of significance are based on the questions in Appendix G of the CEQA Guidelines. The Initial Study prepared for the proposed Project (Appendix B) determined that a potentially significant impact might occur under the following threshold and therefore will be analyzed in this section of the EIR.

1. Result in substantial adverse physical impacts associated with the need for or provision of new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other objectives for:
    a. Fire protection
    b. Police protection
    c. Schools
    d. Parks
    e. Other public facilities (such as libraries)

b. Methodology

This analysis considers the State CEQA Guidelines Appendix G thresholds, as described above, in determining whether the proposed Project, including future development accommodated by the Housing Element Update, would result in impacts related to the provision of public services. The evaluation was based on reviewing the regulations and determining their applicability to the proposed Project. Public services information was acquired through review of relevant documents, questionnaires sent to the BUSD and other service providers, and consultation with City staff, BFD, BPD, and BUSD. The determination that the proposed Project would or would not result in "substantial" adverse effects concerning public services considers the relevant policies and regulations established by local and regional agencies, the proposed Project’s compliance with such policies, and whether the Project would create the need for new or expanded facilities, the construction of which could result in environmental impacts.

In *City of Hayward v. Trustees of California State University* (2015) 242 Cal.App.4th 833, the Court of Appeal held that significant impacts under CEQA consist of adverse changes in any of the physical conditions within the area of a project and potential impacts on public safety services are not an environmental impact that CEQA requires a project applicant to mitigate: "[T]he obligation to provide adequate fire and emergency medical services is the responsibility of the city. (Cal. Const., art. XIII, § 35, subd. (a)(2) ["The protection of the public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services."].) Thus, the need for additional fire and police protection services is not an environmental impact that CEQA requires a project proponent to mitigate.

Generation rates for the potential future elementary, middle, and high school students assumed as part of the proposed Project was based on the 2020 BUSD School Fee Justification Study. Generation rates for multi-family residential units include: 0.1039 for elementary school students (grades K-5), 0.0547 for middle school students (grades 6-8), and 0.0818 for high school students (grades 9-12).

c. Project Impacts

Threshold 1a: Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Impact PS-1 **DEVELOPMENT ACCOMMODATED BY THE HOUSING ELEMENT UPDATE WOULD RESULT IN AN INCREASE IN POPULATION IN THE CITY, WHICH WOULD INCREASE DEMAND FOR FIRE PROTECTION SERVICES, RESULTING IN THE NEED FOR ADDITIONAL AND/OR EXPANDED FIRE PROTECTION FACILITIES. HOWEVER, DEVELOPMENT IMPACT FEES AND SALES TAXES WOULD OFFSET HOUSING ELEMENT UPDATE DEMAND FOR NEW FIRE PROTECTION FACILITIES, THE NEED FOR WHICH WOULD BE DUE TO CUMULATIVE GROWTH IN THE AREA. THE LOCATIONS OF FUTURE NEW OR EXPANDED FACILITIES IS NOT KNOWN AT THIS POINT IN TIME AND ENVIRONMENTAL IMPACTS WOULD BE SPECULATIVE. HOWEVER, COMPLIANCE WITH APPLICABLE CODES AND REGULATIONS AND COMPLIANCE WITH GENERAL PLAN GOALS AND POLICIES WOULD REDUCE POTENTIAL IMPACTS RELATED TO FIRE PROTECTION AND EMERGENCY MEDICAL SERVICES TO A LESS THAN SIGNIFICANT IMPACT.**

As discussed in Section 4.8, *Population/Housing*, housing development accommodated by the Housing Element Update would add an estimated 25,617 residents to the City (based on the average household size in Burbank of 2.45), increasing Burbank's population from 103,969 to 129,586 persons. Most of this population growth would occur in Burbank's downtown area and around Hollywood Burbank Airport due to the zone changes proposed in the Downtown Transit Oriented Development (TOD) Specific Plan area and the Golden State Specific Plan (GSSP) area. This population increase would incrementally increase demand for fire protection services.

Increased development, density, population, and traffic accommodated by the proposed Project would increase calls for service throughout the City for issues including, but not limited to, emergency medical service, structure fires, and traffic collisions. The direct effect on the BFD would include evaluation of staffing and resource deployment to accommodate the increase in call volume throughout the community including all six fire stations. The increase in calls for service directly affects the use, lifespan and deterioration of infrastructure, facilities, and equipment. Additionally, housing development would increase the BFD's staffing need to fulfill their obligations for fire prevention and safety (Hatch; BFD 2021).

BFD is responsible for enforcing fire codes, providing fire inspections, assisting in planning and enforcing development standards for Very High Fire Hazard Severity Zones (VHFHSZ), and implementing the Fire Hazard Reduction Program (Brush Clearance) to ensure that a defensible space is incorporated into newly constructed homes within the VHFHSZ (BFD 2021). All development carried out under the proposed Project would be required to comply with all applicable fire code and ordinances requirements for construction, emergency/fire, access, water mains, fire flows, and hydrants, and would be subject to review and approval by the BFD prior to building permit and certificate of occupancy issuance. Development with modern materials and in accordance with current standards, inclusive of fire-resistant materials, fire alarms and detection systems, automatic fire sprinklers, would enhance fire safety and support fire protection services.

Future housing development under the Housing Element Update would be required to submit a service questionnaire to the BFD in conjunction with their applications to ensure fire protection services are available to serve the proposed housing development and would be required to adhere to the 2019 California Fire Code. The City would review future housing development applications to ensure compliance with the established regulatory framework. Additionally, prior to issuance of occupancy permits, applicants of future housing developments would be required to pay City fees for Fire Code plan review and inspections.

General Plan Policies 4.1 through 4.7 are intended to reduce fire risk in the City by allocating resources to meet projected demands and response times, maintaining adequate fire resources areas vulnerable to fires in VHFHSZ and dense urban areas, and coordinating firefighting efforts with other local, state, and federal agencies. The BFD receives its funding through property taxes, fees for service, and grant funding and can fund expanded services as new development occurs. All new development projects would be required to pay fire protection development impact fees to fund additional facilities and equipment. These funds, in addition to General Fund property and sales tax revenues, would help pay for costs associated with the development of new fire stations, if needed, including any required environmental analysis. As a result of new housing and population growth consistent with the Housing Element, the City will consider long term capital facility needs and associated staffing needs to maintain optimal rates of emergency service personnel per capital to ensure continuity of service at levels that protect the public health, safety, and general welfare consistent with CA Constitution Article XIII Section 35 subdivision (a)(2).

Construction of a future fire station or an expansion to an existing station could result in one or more potentially significant impacts. However, no sites have yet been selected by the City. It is anticipated that a future fire station or an expansion to an existing station will be subject to CEQA review at the time a site is identified and a specific design proposed. Additionally, implementation of the Safety Element Update could provide additional improvements regarding emergency access and evacuation beyond the current Safety Element. Therefore, impacts related to the provision of fire services would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 1b: Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Impact PS-2 **DEVELOPMENT ACCOMMODATED UNDER THE HOUSING ELEMENT UPDATE WOULD RESULT IN AN INCREASE IN POPULATION IN THE CITY, WHICH WOULD INCREASE DEMAND FOR POLICE PROTECTION SERVICES, RESULTING IN THE NEED FOR ADDITIONAL STAFF AND EQUIPMENT. HOWEVER, CONFORMANCE WITH GENERAL PLAN POLICIES AND PROGRAMS RELATED TO POLICE PROTECTION WOULD REQUIRE THE CITY TO CONTINUE TO PROVIDE FUNDING AND ADEQUATE STAFFING, FACILITIES, EQUIPMENT, AND TECHNOLOGY TO MEET EXISTING AND PROJECTED SERVICE DEMANDS AND RESPONSE TIMES. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

As discussed in Section 4.8, *Population/Housing*, housing development accommodated by the Housing Element Update would add an estimated 25,617 residents to the City, increasing Burbank’s population from 103,969 to 129,586 persons. Based on BPD’s current staffing level of 160 sworn officers, the BPD’s officer/resident ratio would drop from 1.54 to approximately 1.23 sworn officers per 1,000 residents. This ratio is below the City’s goal of 1.55.

Policies 2.1 and 2.2 in Burbank’s Safety Element require the BPD to ensure that there is adequate staffing, facilities, equipment, technology, and funding to meet existing services demands and maintain an average response time of four minutes to emergency calls for service. There are no proposed updates to police protection policies in the Safety Element update. Additional demand for police service would be accommodated through the expansion of policy personnel and facilities to continue to meet the BPD’s service standards. New facilities would be required to comply with applicable Federal, State, and local regulations and policies discussed in this EIR. Police protection service levels would continue to be evaluated and maintained by BPD in accordance with existing policies, procedures and practices as development occurs over the lifetime of the Housing Element Update. Future housing developers would be required to submit a service questionnaire to the BPD in conjunction with their applications to ensure that police protection services are available to serve the proposed housing development. Additionally, new development projects would be required to pay police protection development impact fees to help fund additional facilities and equipment. These funds, in addition to General Fund property and sales tax revenues, would help pay for costs associated with the development of new police stations, if needed, including any required environmental analysis.

Planning for new or physically altered BPD stations is based on an assessment of the cumulative need for new facilities. The proposed Project itself would not result in the need for new or expanded facilities. The incremental contribution to demand for increased BPD protection services would be offset by payment of proportionate property taxes and sales taxes and development impact fees to the City of Burbank by developers and the addition of new residents.

Mitigation Measures

No mitigation measures are required.

Threshold 1c: Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Impact PS-3 DEVELOPMENT ACCOMMODATED BY THE HOUSING ELEMENT UPDATE WOULD RESULT IN AN INCREASE IN POPULATION IN THE PLANNING AREA, RESULTING IN THE NEED FOR ADDITIONAL AND/OR EXPANDED SCHOOL FACILITIES. HOWEVER, GOVERNMENT CODE 65995 (B) WOULD REQUIRE FUNDING FOR THE PROVISION OR EXPANSION OF NEW SCHOOL FACILITIES TO OFFSET IMPACTS FROM NEW RESIDENTIAL. ADDITIONALLY, ACCOMMODATING GROWTH PURSUANT TO THE RHNA MAY REQUIRE ADJUSTMENTS TO THE RATE OF INTER-DISTRICT PERMITS. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

The proposed Project would not directly affect local schools but would generate new students entering the BUSD. Implementation of the proposed Project would add an estimated 25,617 residents and some of those residents would be school-aged children. Based on student generation rates for the BUSD, the proposed Project could generate an estimated 6,158 students, including 2,662 elementary school students (grades K-5), 1,401 middle school students (grade 6-8), and 2,095 high school students (grades 9-12).[1] As shown in Table 4.9-1, enrollment capacity in the BUSD as of school years 2020 and 2021 would not adequately accommodate additional students assumed as part of the proposed Project. However, to offset a project's potential impact to schools as discussed in Regulatory Setting, Government Code 65995 (b) establishes the base amount of allowable developer fees a school district can collect from development projects located within its boundaries. The fees obtained by BUSD are used to maintain the desired school capacity and the maintenance and/or development of new school facilities. Any development facilitated by the proposed Housing Element Update and associated rezonings would be subject to these State-mandated school impact fees and collected at the time of building permit issuance. Pursuant to Section 65995 (3)(h) of the California Government Code (Senate Bill 50, chaptered August 27, 1998), the payment of statutory fees "is deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization." Additionally, BUSD utilizes an inter-district permit policy to keep overall enrollment and average daily attendance numbers at levels sufficient to maintain the level of funding necessary for ongoing operations of schools, including staffing, supplies, and programming. Between 2016 and 2021, the District's resident-based enrollment decreased by approximately 5.3 percent (a decrease of 745 students); during the same period, there was an increase in the number of inter-district permits that the District issued to address the decrease and sustain necessary average daily attendance. BUSD will continue to evaluate demand, capacity, and plans for facility needs as future projects under the Housing Element are built out, including any required adjustments to the number of inter-district permits relative to new student population generated from additional housing development in the City.

There are no planned improvements to add capacity through expansion. To accommodate additional students brought into the District from new housing development(s), BUSD would place students at other District schools in the event their home school enrollment was at capacity (Kukta 2021). It is important to note that student daily attendance has a direct effect on State funds in the form of "average daily attendance numbers." The average daily attendance for individual schools

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[1] Generation rates based on the 2020 Burbank Unified School District (BUSD) School Fee Justification Study. Generation rates for multi-family residential units include: 0.1039 for elementary school students (grades K-5), 0.0547 for middle school students (grades 6-8), and 0.0818 for high school students (grades 9-12).

and the district as a whole can affect the availability of state money received to help fund daily operations that include school staffing needs. In the event that BUSD constructs a new school or physically alter an existing facility, a project-specific environmental analysis would be required under CEQA to address site-specific environmental concerns. As described above, existing laws and regulations would require funding for the provision or expansion of new school facilities to offset impacts from new residential development and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 1d:	Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Impact PS-4 DEVELOPMENT ACCOMMODATED UNDER THE HOUSING ELEMENT UPDATE WOULD RESULT IN AN INCREASE IN POPULATION IN THE CITY, WHICH WOULD INCREASE DEMAND FOR PARKS AND RECREATION SERVICES. HOWEVER, CONFORMANCE WITH GENERAL PLAN POLICIES AND PROGRAMS RELATED TO OPEN SPACE WOULD REQUIRE PROVISION OF NEW PARKS AND RECREATION FACILITIES AND ONGOING PARKLAND MAINTENANCE TO PREVENT DETERIORATION. THEREFORE, THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.

As identified in the Burbank2035 General Plan, the City contains 26 parks that total approximately 732 acres of parkland. Stough Canyon Park and Wildwood Canyon Park are the two largest parks in the City. They each serve as recreational and cultural focal points for the community at large.

General Plan Policy 2.3 establishes a minimum level of 3 acres per 1,000 persons, with a goal of 5 acres per 1,000 persons. The Housing Element Update would add an estimated 25,617 residents to the City, increasing Burbank’s population from 103,969 to 129,586 persons. With this increased population, the parkland ratio would decrease from 7.0 acres of parkland for every 1,000 Burbank residents to 5.6 acres of parkland for every 1,000 Burbank residents. Therefore, service ratios would still be above the General Plan goal.

Policies in Burbank’s Open Space and Conservation Element would ensure that adequate parks and recreational facilities are provided to accommodate the anticipated increase in new residents. Policy 2.2 establishes a standard to provide a community or neighborhood park within ½ mile of all residences in the city. Policy 2.4 encourages the City to provide additional types of park facilities such as pocket parks, dog parks, athletic fields, amphitheaters, gardens, and shared facilities. Policies 3.1 through 3.6 provide specific guidance to the City to maintain existing parks and recreation facilities by rehabilitating facilities, installing improvements (e.g., field lighting). Program OSC-2 requires the development of a Park, Recreation, and Community Services Master Plan which would direct long-term acquisition, operation, management, and programming for parks, open spaces, and recreation facilities. The Master Plan is intended to guide the in-lieu fee structure for the acquisition and management of recreation land in connection with the development review process. Program LU-8 would review and revise the community facilities fee program to ensure that new development adequately offsets impacts related to fire, police, library, and park and recreation services. These policies and programs maintain existing levels of service for park and recreation facilities for both existing and new residents, including maintenance to prevent deterioration of existing parks. Implementation of these policies and programs would direct construction of new parks and provide ongoing park maintenance to prevent deterioration of existing facilities. The proposed updates to the Safety Element would not directly or indirectly impact park facilities. Increased demand associated with an increase in population would not significantly accelerate the deterioration of existing park areas or recreational facilities because development would be required to pay the applicable Development Impacts Fees as well as provide on-site private and common open space, consistent with applicable development standards. Therefore, impacts to parks and recreation facilities would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 1e: Would the Project result in substantial adverse physical impacts associated with the provision of other public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

Impact PS-5 **HOUSING DEVELOPMENT ACCOMMODATED UNDER THE HOUSING ELEMENT UPDATE WOULD RESULT IN AN INCREASE IN POPULATION IN THE CITY, WHICH WOULD INCREASE DEMAND FOR OTHER PUBLIC FACILITIES, RESULTING IN THE NEED FOR ADDITIONAL AND/OR EXPANDED FACILITIES. THE BURBANK LIBRARY WOULD MEET THE CITY'S LIBRARY NEEDS PROJECTED UNDER THE HOUSING ELEMENT UPDATE. THEREFORE, IMPACTS RELATED TO THE CITY'S LIBRARY SYSTEM WOULD BE LESS THAN SIGNIFICANT.**

As discussed in Section 4.8, *Population/Housing*, housing development accommodated by the Housing Element Update would increase Burbank's population from 103,969 to 129,586 persons, an approximately 25 percent increase from the City's estimated 2021 population. Given that not all new residents would visit the library every month, the increase in monthly visitation would be lower than 25 percent.

The Burbank Public Library has three locations: Central, Buena Vista, and Northwest. These three sites were collectively open 155.5 hours per week. During the 2018-2019 fiscal year, the Burbank Public Library received 720,994 visits to the branches and had 30,000 attendees in 615 programs (Burbank Public Library 2020). Compared to other libraries in the region (Glendale, Pasadena, Santa Monica, Thousand Oaks, Torrance), Burbank is low on space (ranks 5 of 6 at 0.74 square feet per capita, with only Torrance lower) and is moderately well-staffed (ranks 3 of 6 at 0.60 staff FTE per 1,000 population, slightly ahead of Thousand Oaks and Torrance). A less than 25 percent increase in monthly visitation would warrant the need for additional and/or expanded facilities.

While a less than 25 percent increase would be a large increase to the usage of the libraries, this is in line with SCAG's growth projections for the area and the growth is also anticipated to occur over the next eight years and would not occur all at once. Additionally, Program LU-8 in the Burbank General Plan provides development impact fees for libraries. As mentioned under Impact PS-1, impacts from development would be offset by payment of development impact fees in addition to property taxes and sales taxes to the City. Additionally, potential environmental impacts related to the construction of new or expanded library facilities would be assessed on a project-specific level under CEQA. Therefore, Housing Element Update impacts to public library facilities would be less than significant.

Mitigation Measures

No mitigation measures are required.

4.9.4 Cumulative Impacts

As discussed in the *Impact Analysis*, the addition of approximately 25,617 new residents to the City would not significantly reduce service times or ratios experienced to fire protection, police protection, schools, or other associated public facilities such as libraries. Additionally, the increase of approximately 25,617 new residents would not reduce recreation land service ratios below five acres per 1,000 persons. This increase would not exacerbate the existing need for new or expanded recreational facilities over time. In the absence of new parks, the citywide and regional population (i.e. surrounding cities and unincorporated areas) increase would increase park demand and therefore would be expected to accelerate the deterioration of existing parks, which would be a potentially significant cumulative impact.

As discussed under Impacts PS-1, PS-2, PS-3 and PS-5 reasonably foreseeable development under the Housing Element Update could increase demand for fire protection and emergency medical services; would increase demand for police protection service; would increase demand for public facilities such as libraries; and would likely result in an increase in student enrollment that exceeds overall district capacity. However, development impact fees and property taxes collected from potential housing development proposed under the Housing Element Update would go towards any necessary facility upkeep or expansion. Therefore, the increase to these services would not constitute a cumulatively considerable contribution to the significant cumulative impact related to the deterioration of acceptable service ratios, response times, or other performance objectives for any of the public services listed above. Cumulative impacts would be less than significant.

As discussed under Impact PS-4, reasonably foreseeable development under the Housing Element Update would not result in a potentially significant impact related to the deterioration of existing parks or open space serving the urban areas, since there is adequate space to provide sufficient recreational acreage to meet the projected increase in demand for parks based on the City’s adopted standards. Therefore, this would not constitute a cumulatively considerable contribution to the significant cumulative impact related to park deterioration, and the cumulative impact would be less than significant.

Based on the above information, the incremental effect of the Housing Element Update with respect to the deterioration of public services and recreation facilities would not be cumulatively considerable, and cumulative impacts would be less than significant.

4.10 Recreation

This section analyzes the potential impacts on and from recreational resources resulting from implementation of the Burbank Housing and Safety Element Update (proposed Project) using information from the Burbank2035 General Plan and Municipal Code (BMC).

4.10.1 Environmental Setting

a. Existing Conditions

The Housing and Safety Element Update would apply to the entire geographic area located within the boundaries of the City, which encompasses 17.1 square miles. Burbank is located in the central portion of Los Angeles County, approximately 12 miles north of downtown Los Angeles. The northeastern part of the City is located along the foothills of the Verdugo Mountains and the western edge of the City is located near the eastern part of the San Fernando Valley. The City is bisected by the Interstate 5 (I-5) and is adjacent to the developed areas of the cities of Los Angeles and Glendale.

The City of Burbank Parks and Recreation Department owns and operates parks and recreational facilities throughout the City. These include 26 park sites, totaling approximately 732 acres (City of Burbank 2013). The types of parks in the City range from smaller “pocket” parks to regional parks. The breakdown of these park classifications is based primarily on size, as listed below. Figure 4.10-1 provides a map of all the parks in the City.

- Pocket parks – based on acreage totals for parks which are less than 1 acre in size
- Neighborhood parks – based on acreage totals for parks which are 1 – 10 acres in size
- Community parks – based on acreage totals for parks which are 10 – 50 acres in size
- Regional parks – based on acreage totals for parks which are 50+ acres in size

While pocket and neighborhood parks are generally meant to serve the areas adjacent to these parks, residents often use parks, parkland, and recreational facilities in areas outside of their general community. A breakdown of parks, recreational, and open space totals within City limits is shown in Table 4.10-1.

Table 4.10-1 City of Burbank Parks, Recreation, and Open Space

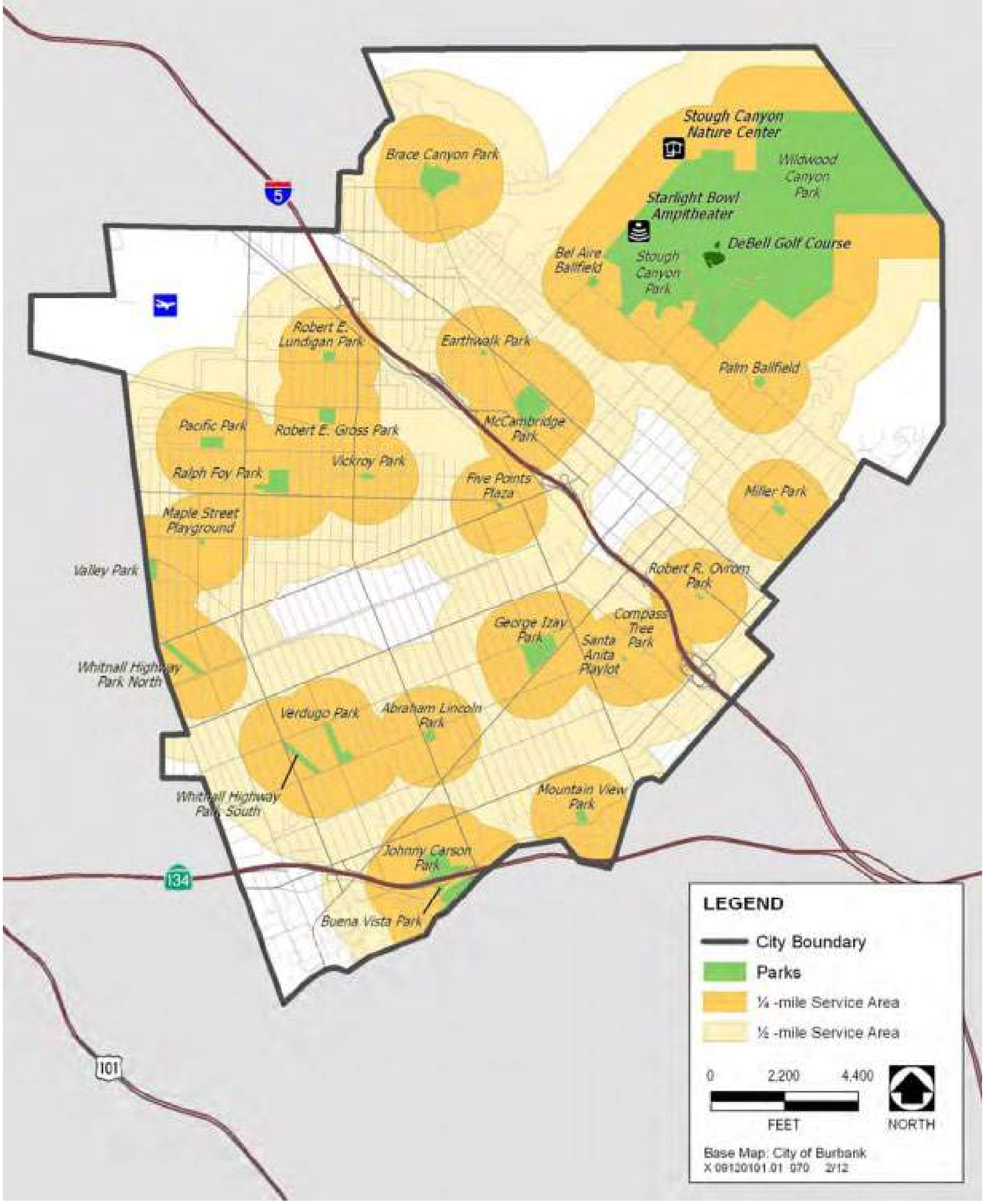
Park Type	Total Acreage	Acres per 1,000 Persons	Recommended Ratio[1]	Meets Recommended Ratio?
Pocket	2.02	0.02	0.04	No
Neighborhood	55.43	0.52	1.5	No
Community	70.83	0.67	2.0	No
Regional	603.57	5.69	8.0	No
Total	**731.85**	**6.9**		

[1] Acres per 1,000 residents

Service levels recommended by National Recreation and Park Association

Source: City of Burbank 2013

Figure 4.10-1 Parks in the City of Burbank



The City's Burbank2035 General Plan has a citywide parkland level of service goal of five acres of parkland per 1,000 persons. Based on the current 2021 citywide population of 103,969 persons (California Department of Finance [DOF] 2021) and a total of approximately 732 available acres of parkland, the City currently provides approximately seven acres of parkland per 1,000 residents. Total park acreage includes regional parks, recreation centers, pools and bathhouses, senior centers, lakes, trails, picnic areas, and playgrounds. As shown in Table 4.10-2, available parkland currently meets the City's parkland level of service goal.

Table 4.10-2 City of Burbank Parkland Ratio

Total Existing Parkland Acres[1]	Population[2]	Acres per 1,000 Persons	Goal	Meets Goal?
732	103,969	7.0	5 acres of parkland per 1,000 persons	Yes

[1] City of Burbank 2013

[2] DOF 2021

As shown in Table 4.10-1, there are approximately 732 acres of recreational space in the City, including pocket, neighborhood, community, and regional parks. The City has two regional parks, Stough Canyon Park and Wildwood Canyon Park, which are both located in the Verdugo Mountains and comprise the majority of parkland in the City. These two regional parks are undeveloped open space providing passive recreational opportunities including trails and observation points. The rugged topography of these regional parks makes it difficult to develop any recreation buildings or sports fields. Moreover, the location of these two regional parks in the Verdugo Mountains makes them less accessible to most Burbank residents, who generally live in flatter, more developed portions of the City. As stated in the Burbank2035's General Plan *Open Space and Conservation Element*, without including the two regional parks in the calculation of parkland acreage ratio, the ratio would be 1.2 acres per 1,000 residents, which is considered low by most nationally accepted parkland standards (City of Burbank 2013).

Burbank is a largely built out city, which makes locating new parks difficult. As stated in the Burbank2035's General Plan *Open Space and Conservation Element*, the City will prioritize new parks in locations where residences are not located within 1/2 mile of a park, to the extent feasible, and will seek vacant and underutilized lots as they become available, and as funding allows. In addition, the City will prioritize accessibility as a major factor in the selection of future park sites to prevent locations that are inaccessible, lack usable open space, or otherwise constrained (City of Burbank 2013). Established City standards included in the Burbank2035's General Plan *Open Space and Conservation Element* for the acquisition of new parkland include:

- The service area should not be divided by natural or human-made barriers such as arterial highways, railroads, freeways, and commercial or industrial areas that would render the site inaccessible or undesirable as a park.
- Neighborhood parks should be located adjacent to elementary schools whenever possible. The primary consideration should be whether the existing school has adequate play space to serve both its educational needs and the needs of the neighborhood for playground space.
- The site for a community park should be of sufficient size to include a recreation building unless adjacent school facilities can be designated to serve public uses when school is not in session.
- Neighborhood parks should have street frontage. If a park is located where adjacent streets are insufficient for parking, the site should have a parking lot. Community park sites should be readily accessible from pedestrian and bicycle routes.

- All neighborhood and community park sites should be accessible by foot or by bicycle.

4.10.2 Regulatory Setting

a. State

Quimby Act

The Quimby Act was established by the California legislature in 1965 to provide parks for growing communities in California. The Act authorizes cities to adopt ordinances addressing park land and/or fees for residential subdivisions for the purpose of providing and preserving open space and recreational facilities and improvements. The Act requires the provision of three acres of park area per 1,000 persons residing within a subdivision, unless the amount of existing neighborhood and community park area exceeds that limit, in which case the City may adopt a higher standard not to exceed five acres per 1,000 residents. The Act also specifies acceptable uses and expenditures of such funds.

State Public Park Preservation Act

The primary instrument for protecting and preserving parkland is the State Public Park Preservation Act. Under the Public Resource Code, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This provides for no net loss of parkland or facilities.

b. Local

Burbank2035 General Plan

The *Open Space and Conservation Element* of the Burbank2035 General Plan includes several objectives, policies, and actions relating to recreational open space as listed below:

Goal 2: Parks, open space and recreation facilities contribute to the high quality of life enjoyed by Burbank residents and the economic value of the community.

> **Policy 2.1:** Identify areas of the City that are currently underserved and focus park expansion and open space acquisition in these areas.
>
> **Policy 2.2:** Provide a community or neighborhood park within 1/2 mile of all Burbank residences.
>
> **Policy 2.3:** Provide park and recreation facilities at a minimum level of 3 acres per 1,000 persons, with the goal of 5 acres per 1,000 persons.
>
> **Policy 2.4:** Seek opportunities to develop additional parks and open space in areas where needed, including pocket parks, dog parks, athletic fields, amphitheaters, gardens, and shared facilities.

Goal 3: Parks and recreation facilities are improved and maintained to ensure they meet the needs of the community.

> **Policy 3.1:** Improve and rehabilitate existing parks and recreation facilities.
>
> **Policy 3.2:** Improve existing athletic fields with lights, equipment, and seating.
>
> **Policy 3.3:** Develop a clear and unified system of identification and directional signs for all park and recreation facilities.

Policy 3.4: Provide low-maintenance, vandal-resistant parks, recreation facilities, and equipment.

Policy 3.5: Provide adequate lighting in parking areas to ensure user safety.

Policy 3.6: Improve and maintain access to accommodate persons with disabilities at all parks.

Policy 3.7: Ensure that the public transit system connects parks and recreation facilities to the rest of the community.

Goal 4: Burbank provides a variety of recreation opportunities that meet the needs of all members of the community.

Policy 4.1: Provide a variety of arts, cultural, historical, fitness, and environmental education programs at parks and recreation facilities.

Policy 4.2: Enhance and expand existing recreation programs in response to changing community demographics and needs.

Policy 4.3: Continue the joint use of facilities owned by the Burbank Unified School District.

Policy 4.4: Continue the use of "drop-in" centers in existing and future recreation facilities.

Policy 4.5: Ensure that buildings, equipment, fields, and other recreation amenities are in full use and capable of accommodating changing program demands.

Goal 5: Parks, trails, and open spaces are connected within the city and to regional open spaces.

Policy 5.1: Develop a comprehensive trails network linking hiking, biking, and equestrian trails to parks and open spaces both within and outside the city.

Policy 5.4: Require that new development projects provide public access to adjacent open space areas.

Burbank Municipal Code (BMC)

Under BMC Article 13, Section 11-1-1301, developers of most residential development projects requesting a subdivision or a zone change are required to either dedicate land for recreation and park purposes, pay an in-lieu fee as designated in the Burbank Fee Resolution, or do both. The in-lieu fees need to be spent on providing park and recreation facilities to serve the development that paid the fee.

4.10.3 Impacts Analysis

a. Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, implementation of the Housing and Safety Element Update would have a significant impact related to parks and recreational facilities if it would:

1. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment

As discussed in the Initial Study (Appendix B), the proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, this impact was found to be less than significant and is not discussed further.

b. Methodology

The recreation analysis focuses on determining whether development under the Housing and Safety Element Update would create the need for new parks, the construction of which could result in significant environmental impacts. This analysis calculates the projected parkland ratio for Burbank under the Housing and Safety Element Update using the 2021 DOF persons/household ratio and population data for Burbank, the projected housing units under the proposed Project, and Burbank's total parkland acreage, and compares it to the City's goal of five acres of parkland per 1,000 residents to assess whether the proposed Project would result in the need for new park facilities.

c. Project Impacts

Threshold 1:	Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Impact REC-1 **DEVELOPMENT FACILITATED BY THE HOUSING AND SAFETY ELEMENT UPDATE MAY REQUIRE THE CONSTRUCTION OR EXPANSION OF ADDITIONAL PARKS AND OPEN SPACE, BUT IMPLEMENTATION OF POLICIES CONTAINED IN THE BURBANK2035 GENERAL PLAN AND BMC WOULD AVOID OR ADEQUATELY MITIGATE ADVERSE PHYSICAL EFFECTS ON THE ENVIRONMENT. THIS IMPACT WOULD BE LESS THAN SIGNIFICANT.**

Development under the Housing and Safety Element Update would increase the population of the City by an estimated 25,617 residents by 2029[1], resulting in a total City population of approximately 129,586 residents and a parkland ratio of 5.6 acres per 1,000 residents. This ratio would still meet the City's goal of five acres of parkland per 1,000 residents. However, the *Open Space and Conservation Element* of the Burbank2035 General Plan establishes a requirement for three acres of new parkland per 1,000 new residents. This requirement applies to large residential developments and would result in parkland dedications, improvements, or in-lieu payments if a project applicant is not able to dedicate land or the land is considered unsuitable for park or recreation use (BMC 2021).

The proposed Project includes large residential developments that would need to comply with this requirement. Figures 2-3 and 2-4 in Section 2, *Project Description* indicate the locations of approved and pending projects and housing opportunities under the Housing and Safety Element Update. Based on these figures, parks located in/near the Downtown District, Golden State Specific Plan District, and the southwest corner of the City would be most impacted by the proposed Project. A majority of the large residential development sites under the Housing and Safety Element Update are located within a quarter- or half-mile of an existing community, neighborhood, or pocket park. The Valhalla (678 units) and Empire (581 units) Golden State Specific Plan housing opportunity sites are adjacent to the Pacific Park and Robert E. Gross Park, respectively. Furthermore, the Burbank Town Center (1,020 units) Downtown housing opportunity site and the Lima/Avon (334 units) and North Hollywood Way (505 units) Golden State Specific Plan housing opportunity sites are not located within a quarter- or half-mile of an existing community, neighborhood, or pocket park. As previously discussed in Section 4.10.1, *Environmental Setting*, the City is largely built out, which makes locating new parks difficult. Developers of the large residential development projects under the Housing and Safety Element Update would need to provide dedicated parkland on the project site, parkland improvements, or pay in-lieu fees if they are unable to dedicate land or if the land is

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[1] 10,456 (Projected residential units) *2.45 (Persons/household ratio from DOF 2021)

considered unsuitable for park or recreation use in order to comply with the Burbank2035 General Plan's requirement of three acres of new parkland per 1,000 new residents.

Construction and operational impacts to air, noise, and traffic, as well as other impacts of new developments are discussed throughout this EIR. Impacts from the construction of new or expanded parks in the City would be similar to those identified in this EIR for construction or operations. Similar to other types of development, the construction of new or expanded park facilities could potentially contribute to the significant historic resource and construction noise impacts identified in Section 4.3, *Cultural Resources/Tribal Cultural Resources*, and Section 4.7, *Noise*, of this EIR. Construction would be required to adhere to the policies contained in the Burbank2035 General Plan and BMC. Policies include noise control during construction and operation of the project, air pollutant reduction by incorporating best available air quality and greenhouse gas mitigation in project design, and the prohibition of development that jeopardizes the integrity of sensitive or protected plant and animal communities. Based on the City's urban location and the limited land available, the construction or expansion of park facilities would result in less than significant impacts with adherence to the City's policies and project specific design features.

Mitigation Measures

No mitigation measures would be required, as implementation of the policies contained in the Burbank2035 General Plan and BMC, as well as existing City review processes, would avoid or adequately mitigate potential environmental impacts relating to the development of new parks.

4.10.4 Cumulative Impacts

The geographic area to analyze cumulatively considerable recreation impacts includes the entire City of Burbank and surrounding areas. Planned cumulative development under the Housing and Safety Element Update would accommodate all planned housing and population growth within the City through 2029. Based on the citywide Project area for the Housing and Safety Element Update, potential Project and cumulative impacts would be the same. Overall development intensity would increase throughout the City, which would increase the use of existing parks and would likely result in the construction or expansion of parks. Developers of the large residential developments under the proposed Project would be required to provide parkland dedications, improvements, or in-lieu payments to comply with the Burbank2035 General Plan requirement of three acres of new parkland per 1,000 new residents. Due to the City's urban location and limited land availability, the construction or expansion of park facilities would likely result in less than significant impacts with adherence to the City's policies and project specific design features. Therefore, the Project's contribution to cumulative recreation impacts would be less than significant.

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4.11 Transportation

This section analyzes the potential effects of the Housing Element Update with respect to transportation. Topics addressed in this chapter include the environmental setting, circulation and mobility systems, regulatory framework, thresholds of significance, methodology, and mitigation measures related to transportation impacts.

The analysis of vehicle miles traveled (VMT) was prepared based on standard guidance from the Governor's Office of Planning and Research's (OPR's) *Technical Advisory on Evaluating Transportation Impacts in CEQA* and interim guidance from the City of Burbank as the lead agency. This guidance reflects the new State of California requirements that transportation impacts be evaluated based on VMT rather than level of service (LOS) or any other measure of a project's effect on automobile delay.

4.11.1 Environmental Setting

a. Circulation System

Overview

The study area is defined by the boundaries of the City of Burbank (City), which encompasses 17 square miles. The City is served by a circulation system that facilitates travel by multiple modes, including walking, bicycling, public transit, and motor vehicles, and includes a network of freeways, highways, railways, local streets, and bicycle facilities. The City of Burbank General Plan Mobility Element, discussed in greater depth in the *Regulatory Setting* section, contains definitions, goals and objectives, and regulatory requirements for a variety of roadway classifications that make up the City's roadway system.

Regional Access

The roadway network in the City includes two freeways that connect the City to neighboring cities and communities: Interstate 5 in the north-south direction and State Route 134 in the east-west direction. Existing freeways, state highways, and arterial streets are presented in Figure 4.11-1.

Local Roadway Network

The City contains public streets that accommodate motorized vehicles, including private motorized vehicles, taxis, freight vehicles, and transit vehicles. Walking and cycling are also important components of the local roadway network. Most roadways in the city organized on a few grid systems. Below is a brief description of the types of facilities in the City based on the *Burbank2035*General Plan Mobility Element and Complete Our Streets Plan.[1]

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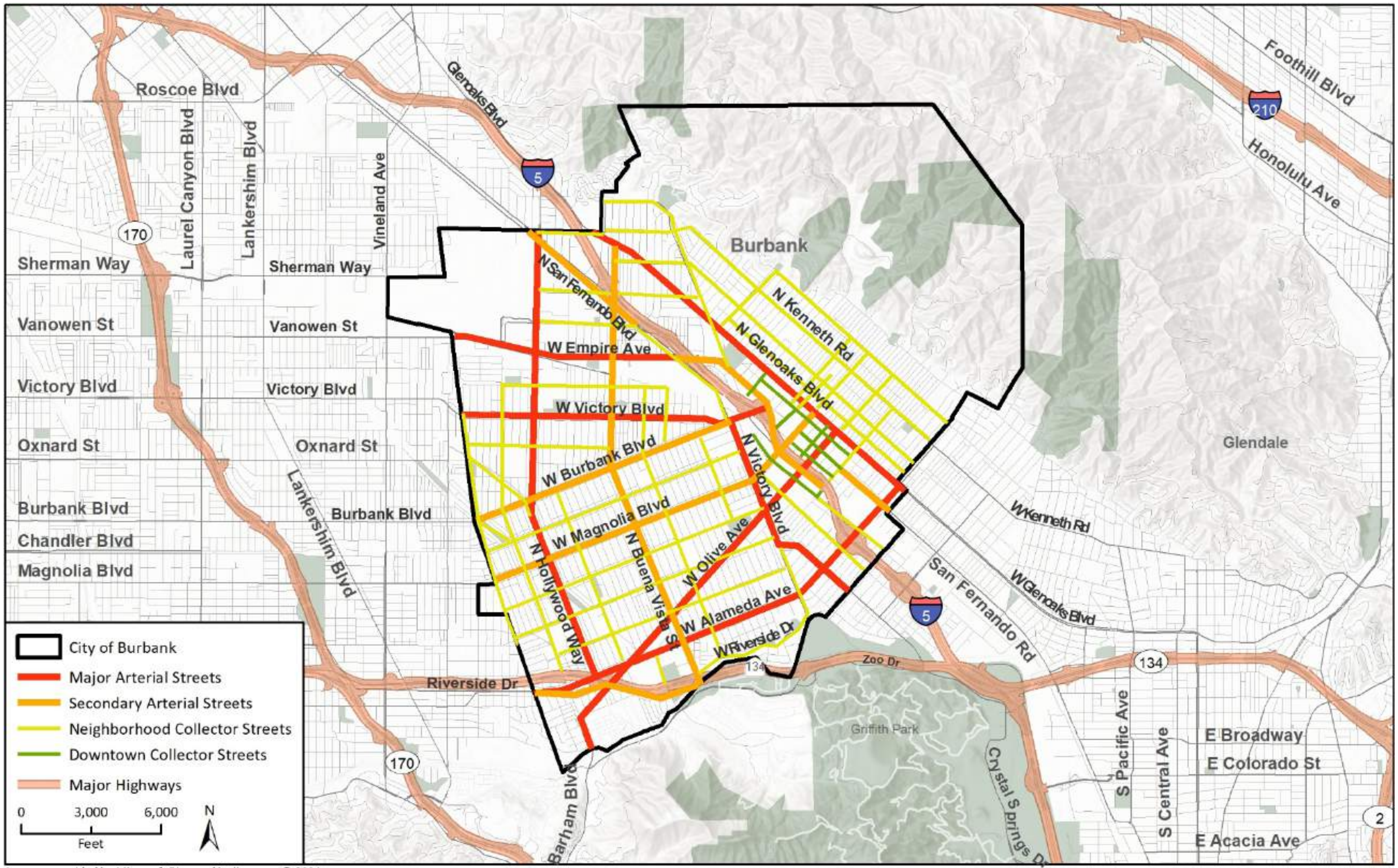
[1] Complete Streets Plan. Adopted June 16, 2020. Available: https://www.burbankca.gov/web/community-development/complete-streets-plan

Figure 4.11-1 Existing Regional and Local Roadway Network



Imagery provided by Microsoft Bing and its licensors © 2021.

Fig 14.2-1 Existing Regional and Local Roadway Network

Major and Secondary Arterial Streets are generally defined as having at least two lanes in each direction along with a median turn lane. The width of Major and Secondary Arterial Streets is usually 68-76 feet with a typical parkway width of 6-16 feet.

Downtown Collectors are generally defined as having one lane in each direction along with a median turn lane. The width of Downtown Collectors is usually 44-60 feet with a typical parkway width of 12-15 feet. Such streets are in the downtown commercial core of the City and prioritize people walking over all other modes.

Neighborhood Collectors or Locals are generally defined as having one lane in each direction and no median turn lane. The width of Neighborhood Collectors or Locals is usually 36 feet with a typical parkway width of 12 feet. Such streets are typically intended for vehicle trips that start or end in the immediate vicinity of the street.

Signalized Intersections and Traffic Control Devices. The City of Burbank's Intelligent Transportation System (ITS) is a computer-based traffic signal control system that monitors traffic conditions and system performance to allow ITS operations to manage signal timing to improve traffic flow conditions. This system allows monitoring and control of the signals from a central operations center. The importance of linking to the ITS system is the ability to coordinate the signals in relationship with other signals along a travel corridor. Signal coordination minimizes delay due to stops and enhances vehicle flow. In addition, City staff can manually adjust traffic signals remotely from the central operations center to respond to collisions, weather, special events, and other major incidents. The ITS network is located along most arterial streets. The City's traffic signal system is interconnected with the Los Angeles County traffic signal Information Exchange Network (IEN) and shares information with Los Angeles City and County, and the cities of Glendale and Pasadena. Traffic signal timing is also coordinated with the California Department of Transportation (Caltrans).

Existing arterial streets (Major and Secondary) are illustrated in Figure 4.11-1 along with freeways and state highways.

Public Transit

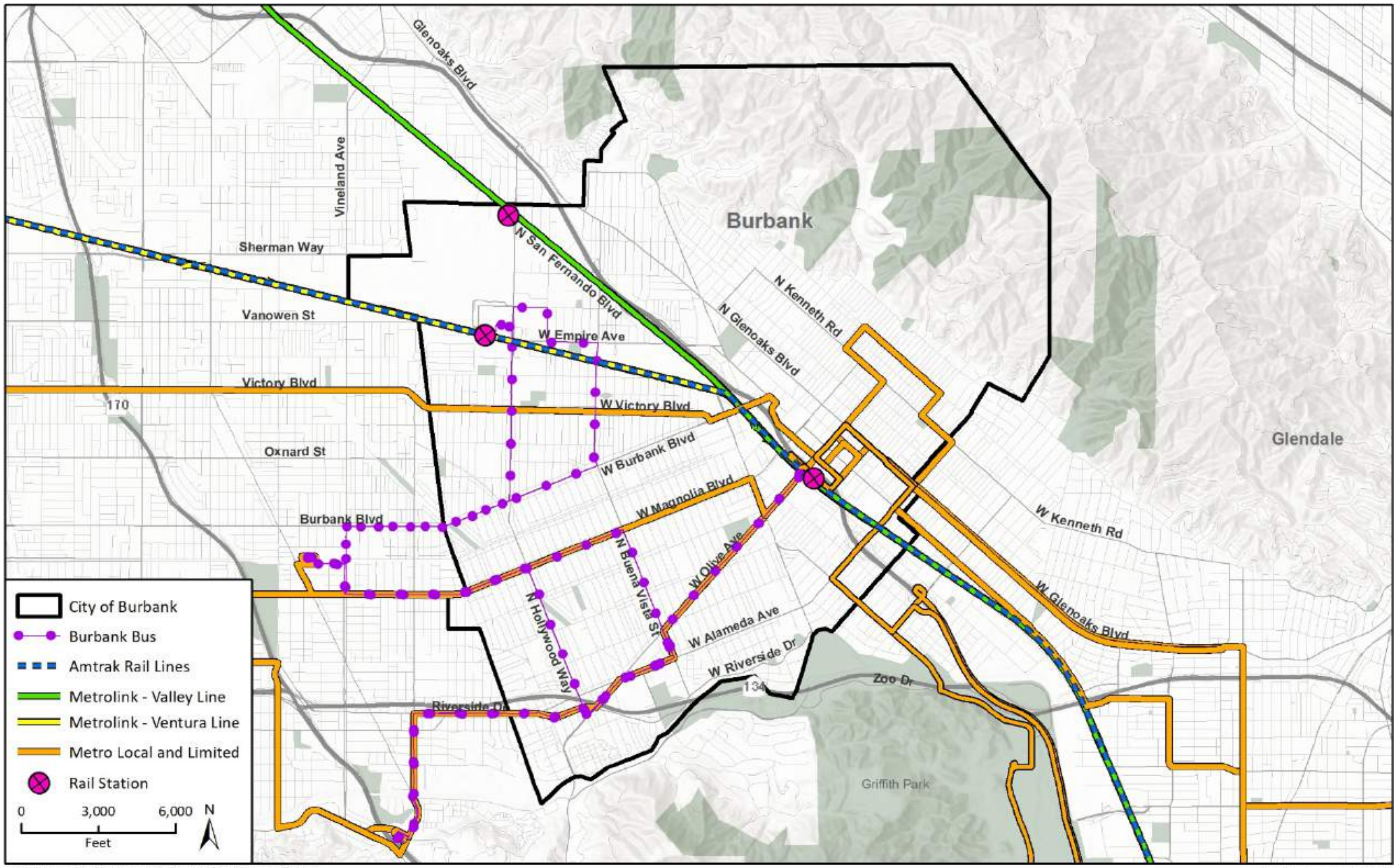
Transit service is provided by multiple transit operators, including LA Metro, Burbank Bus, Metrolink, Amtrak, and other local operators, with networks connecting communities within and outside the City of Burbank. Figure 4.11-2 illustrates existing transit routes for LA Metro, Burbank Bus, and Metrolink.

Below are brief descriptions of the three primary transit operators that provide service within the City:

- **LA Metro** is the primary transit operator in Los Angeles County, providing bus, light rail, and subway services. LA metro provides Local bus lines within the City of Burbank.
- **Burbank Bus** provides additional local bus service within the City of Burbank. The three routes comprising the Burbank Bus system connect key destinations, including: the Media District, two LA Metro subway stations, two Metrolink stations, and the Hollywood Burbank Airport.
- **Metrolink** provides commuter rail service throughout the greater Los Angeles region. The Metrolink system includes three stations within the City of Burbank. Metrolink service focuses on the peak commute hours but also provides some off-peak service.
- **Amtrak** provides regional and inter-regional rail service via the Pacific Surfliner route and connects San Diego, Orange County, Los Angeles, Ventura, Santa Barbara, and San Luis Obispo.

Service is provided to Burbank via the Burbank Airport South Metrolink Station, along with limited stops at the Downtown Burbank Station. Amtrak offers four daily round trips serving Burbank.

Figure 4.11-2 Existing Public Transit Network



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Additional data provided by LA County Department of Transportation, 2021

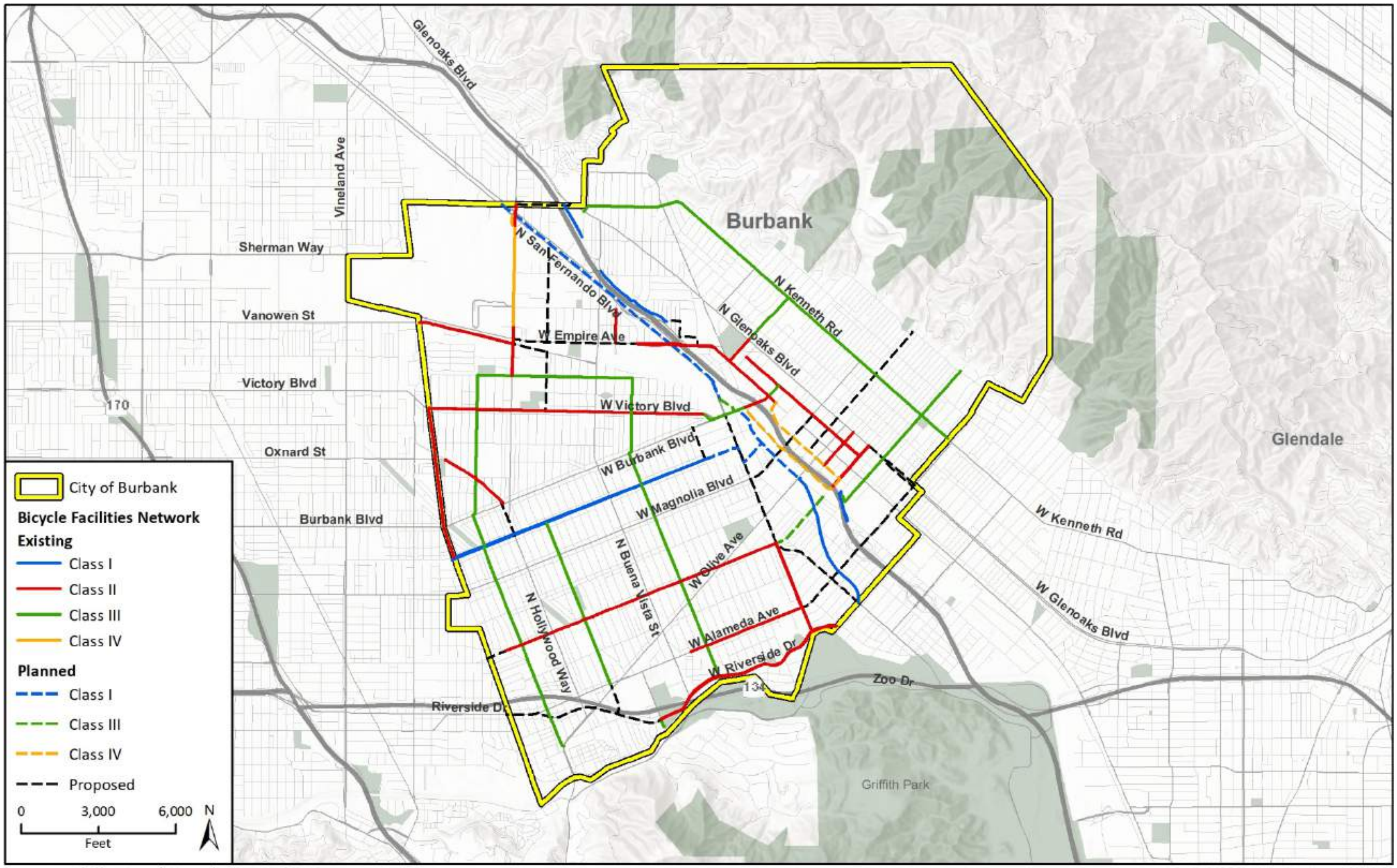
Fig X Transportation 20220126

Bicycle Network and Pedestrian Facilities

The City's existing bicycle network consists of on- and off-street facilities. Bicycle facilities are defined as off-street bicycle paths (Class I), on-street signed and striped bicycle lanes (Class II), on-street signed bicycle routes (Class III), and protected bicycle lanes or cycle tracks (Class IV). Existing bicycle facilities are presented in Figure 4.11-3.

Pedestrian travel in the City varies based on the circulation network in any given area. Areas that have pedestrian-oriented uses fronting the sidewalk offer a pedestrian-friendly atmosphere whereas other areas characterized by long blocks fronting surface parking lots and auto-oriented uses offer few pedestrian amenities. In general, sidewalks range from 6 to 16 feet wide.

Figure 4.11-3 Existing Bicycle Facilities Network



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Additional data provided by LA County Department of Transportation, 2021

4.11.2 Regulatory Setting

There are several plans, regulations, and programs that include policies, requirements, and guidelines regarding transportation at the Federal, State, regional, and City of Burbank levels.

a. Federal Regulations

Americans with Disabilities Act (ADA) of 1990

Titles I, II, III, and V of the ADA have been codified in Title 42 of the United States Code, beginning at Section 12101. Title III prohibits discrimination based on disability in "places of public accommodation" (businesses and non-profit agencies that serve the public) and "commercial facilities" (other businesses). The regulation includes Appendix A through Part 36 (Standards for Accessible Design), establishing minimum standards for ensuring accessibility when designing and constructing a new facility or altering an existing facility. Examples of key guidelines include detectable warnings for pedestrians entering traffic where there is no curb, a clear zone of 48 inches for the pedestrian travel way, and a vibration-free zone for pedestrians.

b. State Regulations

Complete Streets Act

Assembly Bill 1358, the Complete Streets Act (Government Code Sections 65040.2 and 65302), was signed into law by Governor Arnold Schwarzenegger in September 2008. As of January 1, 2011, the law requires cities and counties, when updating the part of a local general plan that addresses roadways and traffic flows, to ensure that those plans account for the needs of all roadway users. Specifically, the legislation requires cities and counties to ensure that local roads and streets adequately accommodate the needs of bicyclists, pedestrians and transit riders, as well as motorists.

At the same time, the California Department of Transportation (Caltrans), which administers transportation programming for the State, unveiled a revised version of Deputy Directive 64 (DD-64-R1 October 2008), an internal policy document that explicitly embraces the Complete Streets Act and its incorporation into all phases of state highway projects, from planning to construction to maintenance and repair.

Assembly Bill 32 (AB 32) and Senate Bill 375 (SB 375)

With the passage of AB 32, the Global Warming Solutions Act of 2006, the State of California committed itself to reducing statewide greenhouse gas (GHG) emissions to 1990 levels by 2020. The California Air Resources Board (CARB) is coordinating the response to comply with AB 32.

On December 11, 2008, CARB adopted its Scoping Plan for AB 32. This scoping plan included the approval of SB 375 as the means for achieving regional transportation related GHG targets. SB 375 provides guidance on how curbing emissions from cars and light trucks can help the state comply with AB 32.

There are five major components to SB 375. First, regional GHG emissions targets: CARB's Regional Targets Advisory Committee guides the adoption of targets to be met by 2020 and 2035 for each Metropolitan Planning Organization (MPO) in the State. These targets, which MPOs may propose themselves, are updated every eight years in conjunction with the revision schedule of housing and transportation elements.

Second, MPOs are required to prepare a Sustainable Communities Strategy (SCS) that provides a plan for meeting regional targets. The SCS and the Regional Transportation Plan (RTP) must be consistent with each other, including action items and financing decisions. If the SCS does not meet the regional target, the MPO must produce an Alternative Planning Strategy that details an alternative plan to meet the target. The RTP and SCS are further described below.

Third, SB 375 requires that regional housing elements and transportation plans be synchronized on 8-year schedules. In addition, Regional Housing Needs Assessment (RHNA) allocation numbers must conform to the SCS. If local jurisdictions are required to rezone land as a result of changes in the housing element, rezoning must take place within three years.

Fourth, SB 375 provides CEQA streamlining incentives for preferred development types. Certain residential or mixed-use projects qualify if they conform to the SCS. Transit-oriented developments (TODs) also qualify if they (1) are at least 50 percent residential, (2) meet density requirements, and (3) are within 0.5 mile of a transit stop. The degree of CEQA streamlining is based on the degree of compliance with these development preferences.

Finally, MPOs must use transportation and air emissions modeling techniques consistent with guidelines prepared by the California Transportation Commission (RTC). Regional transportation planning agencies, cities, and counties are encouraged, but not required, to use travel demand models consistent with the CTC guidelines.

California Vehicle Code (CVC)

The CVC provides requirements for ensuring emergency vehicle access regardless of traffic conditions. Sections 21806(a)(1), 21806(a)(2), and 21806(c) define how motorists and pedestrians are required to yield the right-of-way to emergency vehicles.

Senate Bill (SB) 743

On September 27, 2013, Governor Jerry Brown signed SB 743, which went into effect in January 2014. SB 743 directed OPR to develop revisions to the CEQA guidelines by July 1, 2014 to establish new criteria for determining the significance of transportation impacts and define alternative metrics instead of traffic LOS. This law significantly changes the transportation impact analysis required under CEQA. These changes include elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant transportation impacts for land use projects and plans in California. According to the legislative intent contained in SB 743, these changes to current practice were necessary to "more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."

On January 20, 2016, OPR released the *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, which was an update to *Updating Transportation Impacts Analysis in the CEQA Guidelines, Preliminary Discussion Draft of Updates to the CEQA Guidelines Implementing Senate Bill 743*, which had been released on August 6, 2014. Of note was the updated text of the proposed new CEQA Guidelines Section 15064.3 that relates to the determination of the significance of transportation impacts, alternatives, and mitigation measures. Specifically, CEQA Guidelines Section 15064.3, discussed further below, establishes VMT as the most appropriate measure of transportation impacts. In November 2018, the California Natural Resources Agency finalized the updates to the CEQA Guidelines, and the updated guidelines became effective on December 28, 2018.

CEQA Guidelines Section 15064.3

As discussed above, recent changes to CEQA include the adoption of Section 15064.3, Determining the Significance of Transportation Impacts. CEQA Guidelines Section 15064.3 establishes VMT as the most appropriate measure of transportation impacts. Generally, land use projects within 0.5 mile of either an existing major transit stop[2] or a stop along an existing high-quality transit corridor[3] should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact. A lead agency has discretion to choose the most appropriate methodology to evaluate VMT, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may also use models to estimate VMT and may revise those estimates to reflect professional judgment supported by substantial evidence. For example, for programmatic planning documents covering a large geographical area (such as the Project), a lead agency may use regional models such as the RTP/SCS SCAG travel demand model since it includes land use and transportation assumptions for specific cities in its jurisdiction and the greater SCAG region.

c. Regional Regulations

Southern California Association of Governments 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy

In compliance with SB 375, on September 3, 2020, the SCAG Regional Council adopted the Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS), a long-range visioning plan that incorporates land use and transportation strategies to increase mobility options and achieve a more sustainable growth pattern while meeting greenhouse gas reduction targets set by the CARB. The 2020-2045 RTP/SCS contains baseline socioeconomic projections that are used as the basis for SCAG's transportation planning, as well as the provision of services by the SCAG six-county region. SCAG policies are directed towards the development of regional land use patterns that contribute to reductions in vehicle miles and improvements to the transportation system.

The 2020-2045 RTP/SCS builds on the long-range vision of SCAG's prior 2016-2040 RTP/SCS to balance future mobility and housing needs with economic, environmental and public health goals. A substantial concentration and share of growth is directed towards Priority Growth Areas (PGAs), which include high-quality transit areas (HQTAs), Transit Priority Areas (TPAs), job centers, Neighborhood Mobility Area (NMAs) and Livable Corridors. These areas account for four percent of SCAG's total land area. HQTAs are corridor-focused PGAs within 0.5 mile of an existing or planned fixed guideway transit stop or a bus transit corridor where buses pick up passengers at a frequency of every 15 minutes (or less) during peak commuting hours. TPAs are PGAs that are within 0.5 mile of a major transit stop that is existing or planned. Job centers are defined as areas with significant

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[2] "Major transit stop" is defined in Public Resources Code Section 21064.3 as a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

[3] "High-quality transit corridors" are defined in Public Resources Code Section 21155 as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

higher employment density than surrounding area. NMAs are PGAs with robust residential to non-residential land use connections, high roadway intersection densities, and low-to-moderate traffic speeds. Livable Corridors are arterial roadways where local jurisdictions may plan for a combination of the following elements: high-quality bus frequency; higher density residential and employment at key intersections; and increased active transportation through dedicated bikeways.

d. Local Regulations

Burbank2035 General Plan Mobility Element

In February 2013, the Burbank City Council adopted the Burbank2035 General Plan, which includes the City's Mobility Element. The Mobility Element incorporates "complete streets" principles and lays the policy foundation for how the city's residents interact with the city's transportation network. The Mobility Element includes nine main goals that define the City's high-level mobility priorities:

1. Balance
2. Sustainability
3. Complete Streets
4. Transit
5. Bicycle and Pedestrian Mobility
6. Neighborhood Protection
7. Parking
8. Transportation Demand Management
9. Safety, Accessibility, Equity

Each of the goals contains objectives and policies to support the achievement of those goals.

4.11.3 Impact Analysis

This section explains the metrics used to measure the potential VMT impacts of the Housing Element Update. The metrics used are based on standard OPR guidance and interim guidance from the City.

a. Performance Metrics

Under the new SB 743 guidelines, the focus of transportation impact analyses has shifted from a measurement of vehicle congestion to measurement of vehicle-miles-traveled (VMT). The reason for this is that under SB 743 the environmental impact caused by vehicle transportation is not the inconvenience and delay caused by congestion, but the greenhouse gas emissions generated by operating these vehicles. Key terms for this new type of analysis are defined as follows, with methodology specifics outlined in the following *Methodology* section:

- **Vehicle Trips.** VT are defined as the number of trips undertaken in an automobile, such as in single occupancy vehicles, private automobiles, and vehicles that contain two or more travelers, such as carpools, taxis, or ride-share vehicles. A reduction in VT over time can indicate a reduced reliance on the automobile as well as more travel by carpools and active transportation.

- **Vehicle Miles Traveled.** VMT is a measurement of miles traveled (e.g., private automobiles, trucks and buses) by all land uses (e.g., residential, retail, office) within a defined region, such as the City of Burbank. A reduction in VMT over time can indicate a reduced reliance on vehicular travel, primarily by private automobiles.
- **VMT per Capita.** VMT per capita is a metric comprising all VMT generated by residents including only trips originating from the residents' home location divided by the total resident population. This does not include trips by residents that did not originate from their home location, such as a lunch trip from their office location or a trip from a hotel.
- **VMT per Employee.** VMT per employee is a metric comprising all VMT attracted to office locations including only trips originating from the employees' home location divided by the total employee population. This does not include visitor or delivery trips to an office location.
- **Service Population.** Service population is the sum of population and employment within a defined region, such as the City of Burbank
- **VMT per Service Population.** VMT per service population is a metric comprising all VMT within a defined region divided by the total service population. This includes not only trips that are attracted and produced by home and work trips, but also trips that fit in neither category (i.e., school to grocery store) as well as freight/delivery trips.

b. Thresholds of Significance

Thresholds of significance are based on the questions in Appendix G of the CEQA Guidelines. The Initial Study prepared for the Project (Appendix B) determined that a potentially significant impact might occur under the following thresholds and therefore will be analyzed in this section of the EIR.

1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities
2. Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)
3. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)
4. Result in inadequate emergency access

Threshold 2, listed above, relates to the new SB 743 guidelines requiring VMT (instead of LOS) as the primary metric to assess potential transportation impacts in CEQA documents. The following is an excerpt from CEQA Guidelines Section 15064.3, Subdivision (b):

> "**Land Use Projects.** Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.
>
> **Qualitative Analysis.** If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the

> project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, et cetera. For many projects, a qualitative analysis of construction traffic may be appropriate.
>
> **Methodology.** A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

As of July 1, 2020, the City of Burbank is required to analyze transportation impacts using VMT. In response to this requirement, the City of Burbank developed interim guidance on how projects should be analyzed for VMT impacts. This guidance is based heavily on the State of California Office of Planning and Research (OPR) guidance. Based on standard OPR guidance and City interim guidance applied to programmatic planning documents like the Housing Element, the Housing Element Update would have an impact related to transportation if it would result in VMT per service population, VMT per capita, or VMT per employee that exceeded an applicable threshold of significance. OPR recommends that a per capita or per employee VMT that is fifteen percent below that of existing development regionally or citywide may be a reasonable threshold. As CEQA generally defers to lead agencies on the choice of methodology to analyze impacts, the City of Burbank has chosen to use the following as part of a three-pronged threshold:

- The Project would result in average total VMT per service population in the plan horizon year that exceeds 15 percent below the regional average total VMT per service population from the most recent regional metric available.
- The Project would result in average VMT per capita in the plan horizon year that exceeds 15 percent below the regional average VMT per capita from the most recent regional metric available.
- The Project would result in average VMT per employee in the plan horizon year that exceeds 15 percent below the regional average VMT per employee from the most recent regional metric available.

The City has chosen to evaluate all three of these metrics because the program-level goals and policies of the Housing Element will impact many types of travel including home-based travel, employment-based travel, and non-home/employment travel such as shopping or recreation.

c. Methodology

The methodology to answer the VMT transportation question in Appendix G of the CEQA guidelines is described in detail below. The other three transportation questions in Appendix G are answered through a qualitative review and assessment.

VMT Methodology

The VMT analysis for the Housing Element Update includes the use of the 2016-2040 RTP/SCS SCAG travel demand model[4] for the analysis of the 2021 baseline year and the future 2029 scenarios. The SCAG model was chosen because it includes land use and transportation assumptions for both the City of Burbank General Plan and the greater SCAG region. This VMT Methodology section describes the procedures used to assess potential VMT impacts on the transportation system. It includes an overall discussion of methodology and assumptions, followed by a discussion of how the Housing Element Update is expected to perform in comparison to the thresholds described above. In order to determine whether the Housing Element Update would result in an impact, VMT calculated for the 2021 Baseline scenario is compared to the 2029 with Project scenario. This is calculated using the following outputs from the SCAG model.

Vehicle Trips

VT are calculated from outputs of the SCAG model. For this study, the model generated a vehicle trip calculation for both the City of Burbank and SCAG region in both scenario years using estimated population, household and employment values inputted into each Traffic Analysis Zone (TAZ) of the model.

Vehicle Miles Traveled

VMT is calculated by multiplying vehicle trip length by the number of trips estimated through the SCAG model. VMT takes into consideration population, household, and employment values, as well as travel patterns of origins and destinations. The model generates unique travel patterns and VMT results for each scenario, depending on the size and geographic distribution of the socioeconomic data into the model's TAZs.

d. Project Impacts

Threshold 1: Would the proposed project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Impact TRA-1 **THE HOUSING ELEMENT UPDATE IS CONSISTENT WITH ALL APPLICABLE PROGRAM, PLAN, ORDINANCE, AND POLICY RELATED TO THE TRANSPORTATION SYSTEM. THEREFORE, IMPACTS RELATED TO CONFLICTS WITH APPLICABLE REGULATIONS WOULD BE LESS THAN SIGNIFICANT.**

The Housing Element Update would not conflict with any applicable program, plan, ordinance, or policy relevant to the transportation system, nor would it limit or preclude the City's ability to implement programs and policies in furtherance of climate or equity goals.

The *Burbank2035 General Plan Mobility Element* includes policies supporting the development of alternative transportation programs. Key goals and objectives described by the Mobility Element include:

- Policy 2.1: Improve Burbank's alternative transportation access to local and regional destinations through land use decisions that support multimodal transportation.

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[4] The 2020-2045 RTP/SCS SCAG travel demand model has not yet been released. Therefore, the 2016-2040 RTP/SCS SCAG travel demand model was the latest available regional travel demand model to perform the VMT analysis for this project.

- Policy 4.1: 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.

The Complete Streets Plan also includes goals to promote alternative transportation use by people of all ages and abilities and improve the experience for people taking transit, walking, and bicycling.

In addition, increased alternative transportation usage is a key goal of regional transportation plans and policies:

- The SCAG *Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)* (2020) includes specific goals of sustainable mobility. This includes plans to improve air quality and public health, reduce greenhouse gas emissions, and promote transit-friendly development.
- The SCAG *Regional Comprehensive Plan* (2008) includes an adopted policy supporting local jurisdiction programs that encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bicycle.

The Project will not interfere with these adopted plans, guidelines, policies, and standards. Additionally, by encouraging development on infill sites or development of existing parcels with greater density in high-resource areas around the city already serviced by public transit, the Project will improve residential transit access and possibly increase transit mode share. The Project will also facilitate the completion of household errands on bike or foot, rather than in a car, which further supports state and local transportation-related climate and congestion goals. Therefore, the impact is less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 2:	Would the proposed project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Impact TRA-2 THE HOUSING ELEMENT UPDATE WOULD REDUCE VMT IN THE THREE TARGET POPULATIONS, HOWEVER IT WOULD NOT REDUCE VMT MORE THAN THE REQUIRED 15 PERCENT. THEREFORE, IMPACTS RELATED TO VMT WOULD BE SIGNIFICANT AND UNAVOIDABLE.

The Housing Element Update would have an impact if its VMT exceeds at least one of the following:

- The Housing Element Update would result in average total VMT per service population for the 2029 City of Burbank Housing Element Plan that exceeds 15 percent below the regional average total VMT per service population from the 2021 SCAG region.
- The Housing Element Update would result in average VMT per capita for the 2029 City of Burbank Housing Element Plan that exceeds 15 percent below the regional average VMT per capita from the 2021 SCAG region.
- The Housing Element Update would result in average VMT per employee for the 2029 City of Burbank Housing Element that exceeds 15 percent below the regional average VMT per employee from the 2021 SCAG region.

Table 4.11-1 shows vehicle trips and VMT for the 2021 SCAG region scenario and the 2029 Housing Element Update scenario. As shown in Table 4.11-1, full buildout of the 2029 Housing Element Update would result in 3 percent less average total VMT per service population, 39 percent less average VMT per capita, and 7 percent less average VMT per employee compared to the 2021 SCAG region baseline. This result exceeds the thresholds of significance for average total VMT per service population and average VMT per employee and does not exceed the threshold of significance for average VMT per capita. The analysis shows that the addition of new housing to the City in conformance with the goals and policies of the Housing Element provides a large reduction in VMT per capita because the Project improves the jobs-to-housing balance in Burbank, allowing more residents to live closer to their work location. The goals and policies of the Housing Element also reduce VMT per employee. However, since a large proportion of employees who work in Burbank live outside of Burbank, the reduction in VMT per employee due to the Project is not as large as the reduction in VMT per capita. In other words, adding housing supply affects resident travel behavior more so than employee travel behavior. Similarly, the Project provides a reduction in total VMT per service population, but to a lesser extent than VMT per capita. This is because total VMT per service population includes non-home-based trips, such as heavy truck delivery trips (i.e., adding housing supply does not directly affect freight/logistics operations in the City). Therefore, while the Housing Element would reduce VMT for all three metrics, it would not reduce them beyond the threshold of 15 percent for two of the metrics. Since the Housing Element Update would exceed two of the three thresholds of significance, the project results in a significant impact.

Table 4.11-1 Project VMT Compared to SCAG Region Baseline

Metric	2021 SCAG Region Baseline	2029 Burbank Housing Element Update	Percent Difference
Average Total Daily VMT per Service Population	34.5	33.5	-3%
Average Daily VMT per Capita	14.9	9.2	-39%
Average Daily VMT per Employee	18.1	16.7	-7%

Source: Fehr & Peers, 2021

Mitigation Measures

Potential mitigation measures that would reduce the average total VMT per service population and average VMT per employee are generally project specific mitigation measures such as:

- Provide bicycle parking at employer locations
- Provide parking cash-out programs
- Provide car-sharing, bike sharing, and ride-sharing programs at employer locations
- Provide transit passes to employees
- Improve or increase transit accessibility to employer locations
- Improve pedestrian or bicycle networks, or transit service
- Provide traffic calming features on City roadways

These mitigation measures can be applied at the project specific level but are not feasible at the program level for a housing element as they are beyond the scope of the document. Therefore, there is no feasible mitigation available to reduce the impacts.

Significance After Mitigation

Impacts would be significant and unavoidable.

Threshold 3:	Would the proposed project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
Threshold 4:	Would the proposed project result in inadequate emergency access?

Impact TRA-3 **THE HOUSING ELEMENT UPDATE DOES NOT INCLUDE ANY DEVELOPMENT PROJECTS THAT COULD INCREASE HAZARDS DUE TO DESIGN FEATURES. THEREFORE, IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

Adoption of the Housing Element Update analyzes the amount of new housing units the City will accommodate during the document's planning period and sets goals and policies for how this housing is implemented. It does not grant entitlements for any specific project or future development. Thus, the plan for new housing and the goals and policies needed to achieve that housing do not have a specific transportation safety impact or hazard. All future developments would be reviewed by the appropriate City staff to ensure consistency with all applicable City and State design standards, including standards for project access points, location, and design, sight lines, roadway modifications, provisions for bicycle and pedestrian transportation connections, and emergency access. Therefore, the Housing Element Update would not result in increased hazards due to a geometric design feature or incompatible use or inadequate emergency access and the impact is less than significant.

Mitigation Measures

No mitigation measures are required.

4.11.4 Cumulative Impacts

CEQA Guidelines 15130(a) require that the cumulative effect of implementing a project be assessed to determine if the project's incremental effect - together with that of other projects including growth envisioned by the Burbank2035 General Plan and regional growth assumed in the RTP/SCS - would be cumulatively considerable. The Housing Element Update envisions full buildout of the housing accommodated by the plan by 2029, with cumulative impacts being evaluated on full implementation. The significance thresholds used to assess the Housing Element's potential project-level VMT impacts (15% below baseline VMT per capita, VMT per employee, and total VMT per service population) were developed based on OPR guidance and were designed to support the State's long-term environmental goals. Since the project-level significance thresholds were designed to support long-term environmental goals, they inherently also address potential cumulative VMT impacts. Therefore, since the Housing Element has two significant and unavoidable project-level VMT impacts, these are also significant and unavoidable cumulative VMT impacts.

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4.12 Utilities/Service Systems

This section analyzes environmental impacts associated with the provision of infrastructure for water supply, wastewater conveyance, treatment, and disposal, solid waste disposal, and stormwater management, as well as telecommunications facilities, energy, and natural gas. The discussion and analysis contained herein is informed by outputs from the CalEEMod prepared for the proposed Project, as well as publicly available data and reports from the City of Burbank, Burbank Water and Power (BWP), and other publicly available sources of information, as cited throughout the discussions below.

4.12.1 Environmental Setting

The environmental setting for infrastructure related to water supply, wastewater treatment conveyance and treatment, stormwater conveyance and treatment, solid waste conveyance and disposal, electricity and natural gas, and telecommunications, is described below.

a. Water Supply

BWP provides domestic and potable water service in Burbank. The City's water comes from two sources: water purchased from Metropolitan Water District of Southern California (Metropolitan), a regional wholesaler and State Water Project (SWP) contractor, and local groundwater from the San Fernando Valley Groundwater Basin (San Fernando Basin). BWP also uses recycled water to meet some of its water needs such as outdoor irrigation and power plant cooling.

Water purchased from Metropolitan is imported from the Colorado River Aqueduct and the SWP. Metropolitan is a regional wholesaler with no retail customers, which 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 (Metropolitan 2021). Each of Metropolitan's qualifying member agencies, including BWP, is responsible for implementing its own Urban Water Management Plan (UWMP); see further discussion of UWMPs in Section 4.13.2(a). BWP's 2020 UWMP, adopted in June 2021, includes an assessment of past and future water supplies and demands, evaluation of the future reliability of the region's water supplies over a 20-year planning horizon, discussion of demand management measures and Burbank's water shortage contingency plan, discussion of the use and planned use of recycled water, and an evaluation of distribution system water losses (BWP 2021a).

BWP does not have ownership rights to the naturally occurring groundwater underneath the City, but BWP does have rights to pump groundwater through groundwater credits. Groundwater provided by BWP is managed in accordance with the Upper Los Angeles River Adjudication Judgment, administered by the Upper Los Angeles River Area Watermaster as the Watermaster. The adjudication Judgment limits production from the San Fernando Basin to ensure the long-term reliability of the basin. As with Metropolitan, BWP also maintains an UWMP that forecasts future water demands in Burbank 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 2021a).

The Burbank Water Reclamation Plant (BWRP) produces a disinfected tertiary effluent that is approved for all uses, including full body contact, with the exception of human consumption. The BWRP produces up to 10,000 acre-feet per year (AFY) of recycled water, which is available for reuse in any of the following three ways:

- Flowed via gravity pipeline to the BWP campus
- Pumped into the recycled water distribution system
- Discharged to the Burbank Wester Channel adjacent to the BWRP

Recycled water produced at the BWRP is used for power production, landscape irrigation, and evaporative cooling (BWP 2021a). BWP has recently completed a feasibility study of both indirect and direct potable reuse of BWP's excess recycled water.

b. Wastewater

Wastewater generated in Burbank is collected and conveyed by approximately 230 miles of underground pipelines ranging in diameter from six inches to 30 inches. The City's wastewater conveyance system also includes two pump stations and 19 diversion manholes. In addition, the Los Angeles 48-inch North Outfall Sewer (NOS) line runs from west to east through the southern portion of the City. A small number of flows go directly to the NOS.

Wastewater flows to the BWRP, which has a design capacity of 12.5 million gallons per day (mgd) and currently treats 8.5 mgd (BWP 2021a). The disinfected tertiary effluent produced by the BWRP is discharged to either the Burbank Western Channel or to the City's recycled water distribution system for non-potable use. The discharged tertiary effluent meets discharge limitations identified in its National Pollutant Discharge Elimination System (NPDES) permit issued by the Los Angeles Regional Water Quality Control Board (RWQCB). The BWRP's effluent also meets the most stringent water quality criteria for recycled water, as defined in the California Code of Regulations, Title 22, Division 4, Chapter 3 requirement as Disinfected Tertiary Recycled Water. The City of Burbank Department of Public Works is responsible for maintaining, replacing, and upgrading the City's sewer collection system.

c. Stormwater

The City of Burbank Public Works Department (PWD) oversees stormwater management throughout the City. In 2012, the Los Angeles RWQCB adopted the *Final Waste Discharge Requirements for Municipal Separate Storm Sewer System* (MS4) *Discharges within the Coastal Watersheds of Los Angeles County*. Burbank is a co-permittee in fulfilling the requirements of the municipal storm water permit, which regulates discharges of stormwater and urban runoff from storm drain systems. Furthermore, the City has an established Storm Water Quality Management Program that educates existing and future efforts relating to stormwater management across the City. The City's existing stormwater pipeline system is comprised of 42-inch-wide reinforced concrete pipe (RCP) that collects stormwater runoff from throughout the city and ultimately discharges it into the Los Angeles County Flood Control District's (LACFCD) Burbank Western Channel and the Pacific Ocean.

d. Solid Waste

The Street and Solid Waste Division of the Burbank PWD is responsible for the collection of solid waste, green waste, recyclables, and bulky items in the City. City solid waste collection crews service all single-family residences, 50 percent of multifamily residences, and approximately 10 percent of the City's commercial/industrial refuse customers. Businesses and larger multifamily residences can use City solid waste and recycling services as well or hire a private waste collection and hauling company (Burbank 2020).

Solid waste generated in Burbank is transported to and disposed of at any of seven southern California landfills including Burbank Landfill Site No. 3, Chiquita Canyon Sanitary Landfill, Sunshine Canyon City/County Landfill, Simi Valley Landfill and Recycling Center, Puente Hills Landfill, Lancaster Landfill and Recycling Center, and Olinda Alpha Sanitary Landfill (City of Burbank 2013).

The City owns and operates the Burbank Landfill, located in the Verdugo Hills at the eastern edge of Burbank. The facility is located on 86 acres, 48 of which are used for disposal. The landfill has a maximum permitted capacity of 5,933,365 cy (CalRecycle 2019) and as of December 31, 2019, had a remaining capacity of 4,843,582 cy (approximately 82 percent of the maximum permitted capacity) (Los Angeles County 2020). The maximum permitted intake is 240 tons (436 cy) per operating day and average intake is approximately 123 tons (224 cy) per day. Burbank Landfill had an original expected closure year of 2053 but is now estimated to be open through 2150 (Los Angeles County 2020; Burbank Landfill 2021). Routine inspection for compliance with state minimum standards is conducted monthly. As of October 2021, the landfill's best management practices (BMPs) were observed to be fully in place and the site looked to be in satisfactory condition (CalRecycle 2021). One hundred percent of the intake at the landfill is from Burbank (City of Burbank 2013, Los Angeles County 2020). Residential trash collected by the City is deposed of at this facility, including trash collected by the City from all single-family residences, 50 percent of multifamily residences, and 10 percent of commercial/industrial refuse customers. Private waste haulers also collect trash from within the City, and serves the multifamily residential units and commercial/industrial users that are not otherwise served by the City. Solid waste collected by private waste haulers may be transported to any of the landfill facilities.

The City also owns the Burbank Recycle Center, which houses a materials recovery facility and buyback/drop off center, as well as a used oil center, composting information, and a learning center. The Burbank Recycle Center is a private/public partnership with Burbank Recycling Inc. that collects and diverts wastes that contribute to the Burbank Landfill capacity (Burbank 2013).

Hazardous waste requiring disposal is sent to the Kettleman Hills Hazardous Waste Facility, a 1,600-acre hazardous waste and municipal solid waste disposal facility located southwest of Kettleman City in the western San Joaquin Valley. The facility is permitted for the direct landfill of California hazardous waste, Toxic Substances Control Act-regulated polychlorinated biphenyl (PCB) waste and Resource Conservation and Recovery Act (RCRA) wastes (that naturally meet treatment standards) (Waste Management 2015). The facility is regulated and inspected by the United States Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC), Central Valley RWQCB, Kings County Department of Public Health, San Joaquin Valley Air Pollution District (SJVAPD), and CalRecycle. It has a remaining capacity of six million cy. Permits are currently pending to expand the existing hazardous waste landfill to allow more years of disposal and to develop a new hazardous waste landfill on currently undeveloped land to open after the existing landfill reaches capacity (Waste Management 2018).

e. Telecommunications, Electricity, and Natural Gas

Telecommunications services in Burbank are provided by private companies, including AT&T, EarthLink, and Spectrum, among others. The telecommunications provider used by residents and businesses in Burbank is subject to the user's discretion. Telecommunications facilities are generally available throughout the City.

Electric power supply throughout the City is provided by BWP. According to the California Energy Commission (CEC), in 2020 BWP had a total usage of 995.1 Gigawatt hours (GWh). Residential uses consisted of the second most energy intensive source (287.6 GWh) for BWP, behind commercial and building (507.8 GWh) (CEC 2020a). BWP's power mix from the power content label (PCL), which shows total generation delivered for a calendar year, divided by retail sales (not renewable energy credits retired) for 2020 consisted of approximately 31percent renewable resources (wind, geothermal, biomass, solar, and small hydroelectric), 26 percent coal, 31 percent natural gas, eight percent nuclear, two percent hydroelectric, and the remainder from other sources (BWP 2020).

Burbank is in Southern California Gas Company's (SCG) natural gas service area, which provides service to most of southern California (SCG 2021). SCG's service area is equipped with approximately 5.9 million meters of gas transmission pipelines throughout the 24,000-square mile service area (SCG 2021). In 2019, SCG customers consumed a total of 5.2 billion therms of natural gas (CEC 2020b). Residential users accounted for approximately 46 percent of SCG's natural gas consumption. Industrial and commercials users accounted for another 31 percent and 17 percent, respectively. The remainder was used for mining, construction, agricultural, and water pump accounts (CEC 2020). Natural gas is also addressed in Section 4.6, *Energy*.

4.12.2 Regulatory Setting

The regulatory setting for utilities is provided below, organized per the topics addressed in this section, including water supply; wastewater; stormwater; solid waste; telecommunications, electricity, and natural gas.

a. Water Supply

State Regulations

California Water Conservation Bill (Senate Bill X7-7)

The Water Conservation Bill, enacted in 2009, set an overall goal of reducing per capita urban water use in the State by 20 percent by December 31, 2020. Under this bill, the State was required make incremental progress toward the 2020 goal by reducing per capita water use by at least 10 percent by December 31, 2015. The bill also required urban water suppliers (such as the City of Burbank) to reduce per capita water use 20 percent by 2020, establish water conservation targets for the years 2015 and 2020, and include the following information in their water management plans: the baseline daily per capita water use; water use targets; interim water use targets; compliance daily per capita water use.

Senate Bill 610

In 2001, California adopted Senate Bill (SB) 610, thereby amending California Water Code. Under this law, certain types of development projects are now required to provide detailed water supply assessments to planning agencies. Any project that is subject to CEQA and would demand more than 75 AFY of water, or 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 projection and with consideration to normal, dry, and multi-dry water years.

The Project is subject to CEQA and includes more than 500 dwelling units. However, the Housing Element is a planning document, not a development project, and it therefore does not directly trigger the need for a WSA as defined by California Water Code. Nonetheless, a WSA was prepared for the Housing Element toward the purpose of providing a well-informed analysis of potential impacts to water supply availability and reliability. The Housing Element WSA, which was prepared in accordance with California Water Code, is provided as Appendix L.

Senate Bill 221

SB 221 also addresses water supply in the land use planning process and focuses on new residential subdivisions in nonurban areas. SB 221 requires the provision of written verification from the water service provider indicating that sufficient water supply is available to serve a proposed subdivision or a finding by the local agency that sufficient water supplies are or will be available prior to completion of a project. SB 221 specifically applies to residential subdivisions of 500 units or more. Government Code Section 66473.7(i) exempts "any residential project proposed for a site that is within an urbanized area and has been previously developed for urban uses, or where the immediate contiguous properties surrounding the residential project site are, or previously have been, developed for urban uses, or housing projects that are exclusively for very low and low-income households."

The proposed Project involves the update of the Burbank General Plan and does not involve any development application. As such, it does not propose development of 500 or more dwelling units in a nonurban area and is not subject to SB 221.

Urban Water Management Act

The California Urban Water Management Planning Act (California Water Code Division 6, Part 2.6, Sections 10610–10656) requires that all public water suppliers that provide municipal and industrial water to more than 3,000 customers, or supply more than 3,000 AFY of water, adopt an UWMP. An UWMP is intended to forecast future water demand and supply under normal and dry conditions. The UWMP must include a description of existing and planned sources of water available to the water supplier; conservation efforts to reduce water demand; alternative sources of water; assessment of reliability and vulnerability of water supply; and water shortage contingency analysis. It must be updated every five years and submitted to the DWR for review. Metropolitan and BWP both maintain UWMPs for their water systems. BWP's 2020 UWMP was updated in June 2021 and is therefore used to inform this analysis.

The Urban Water Management Planning Act has been modified several times in response to the water shortages, droughts, and other factors. The Water Conservation Act of 2009 amended the Urban Water Management Planning Act to call for a statewide reduction of 20 percent in urban water use by the year 2020. An amendment in 2014 requires water suppliers to provide narrative descriptions of their water demand management measures and account for system water losses.

California Code of Regulations

CCR Title 24, Part 5, establishes the California Plumbing Code (last updated in 2013) that became effective January 1, 2014. The California Plumbing Code sets forth efficiency standards (i.e., maximum flow rates) for all new federally regulated plumbing fittings and fixtures, including showerheads and lavatory faucets.

CCR Title 22 regulates production and use of recycled water in California by establishing three categories of recycled water: (1) primary effluent, which that typically includes grit removal and initial sedimentation or settling tanks; (2) adequately disinfected, oxidized effluent (secondary effluent), which that typically involves aeration and additional settling basins; and (3) adequately disinfected, oxidized, coagulated, clarified, filtered effluent (tertiary effluent), which typically involves filtration and chlorination. In addition to defining recycled water uses, Title 22 also defines requirements for sampling and analysis of effluent and requires specific design requirements for plants.

CCR Title 24, Part 11, establishes planning and design standards for sustainable site development energy efficiency, water conservation, material conservation, and internal air contaminants. These provisions became effective January 1, 2011.

California Drought Update

In 2014, the governor issued a Drought Declaration and requested a voluntary 20 percent reduction in urban water use statewide, directing the State Board to adopt Emergency Regulations. As a result, the State Board adopted Emergency Regulations for Statewide Urban Water Conservation that were documented in CCR Title 23, Sections 863–865.

In 2015, the governor issued an Executive Order for mandatory statewide water reductions to reduce water usage by 25 percent. The Executive Order directed local water agencies to increase enforcement over wasteful use of water and invest in modern technologies that will make California more drought resilient. The Executive Order establishes several provisions for water saving and increased enforcement against wasteful water use:

- The State Board shall impose restrictions to achieve a statewide 25 percent reduction in potable urban water usage, compared to amount used in 2013, through February 28, 2016;
- The Department of Water Resources (DWR) shall lead a statewide initiative to replace 50 million sf of lawns and ornamental turf with drought tolerant landscapes;
- The CEC, jointly with the Department of the Water Board, shall implement a time-limited statewide appliance rebate program to replace inefficient household devices;
- The State Board shall impose restrictions to require that commercial, industrial, and institutional uses implement water efficiency measures to reduce potable water usage;
- The State Board shall prohibit irrigation with potable water of ornamental turf on public street medians;
- The State Board shall prohibit irrigation with potable water outside of newly constructed homes/buildings that is not delivered by drip or microspray systems; and
- The State Board shall require urban water suppliers to provide monthly information on water usage, conservation, and enforcement on a permanent basis.

Local Regulations

Metropolitan's Integrated Water Resources Plan – 2015 Water Tomorrow Update

The proposed Project is located within the services areas of BWP (discussed above) and Metropolitan. Metropolitan's Integrated Water Resources Plan was first developed in 1996 to establish targets for a diversified portfolio of supply investments. The 2015 Water Tomorrow 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 Water Tomorrow Update was adopted by Metropolitan's board of directors in January 2016

(Metropolitan 2016b). The 2015 Water Tomorrow Update is separate from Metropolitan's UWMP and is incorporated by reference in the UWMP, as applicable.

Greater Los Angeles County Region IRWMP

The Greater Los Angeles County (GLAC) Integrated Regional Water Management Plan (IRWMP) is a regional plan designed to improve collaboration in water resources management. To make governance and stakeholder involvement manageable, the GLAC Region was organized into five Subregions which consider both geographic and demographic variations over the 2,058 square mile area. These Subregions include: Lower San Gabriel and Los Angeles Rivers (Lower SG & LA); North Santa Monica Bay (North SM Bay); South Bay; Upper Los Angeles River Area (ULARA); Upper San Gabriel and Rio Hondo Rivers (Upper SG & RH). Of these regions, BWP is a member of the ULARA Steering Committee. The first IRWMP for the GLAC 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. In 2014, the IRWM group updated the IRWMP to comply with new State integrated planning requirements and update the content (Leadership Committee of the GLAC IRWMP 2014). The IRWMP provides a mechanism for: 1) coordinating, refining, and integrating existing planning efforts within a comprehensive, regional context; 2) identifying specific regional and watershed-based priorities for implementation projects; and 3) providing funding support for the plans, programs, projects, and priorities of existing agencies and stakeholders.

Burbank 2035 General Plan

The Burbank2035 General Plan (adopted February 2013) is the primary mechanism for guiding future population growth and development in Burbank and provides a guide for land use decision-making. The General Plan's Open Space and Conservation Element addresses the conservation and enhancement of open space, parks, recreation, and natural resources within the City. The goals and policies of the Open Space and Conservation Element are intended to protect natural resources including water resources (Burbank 2013). The goal and policies applicable to water resources are presented below:

Goal 9: Water Resources

Adequate sources of high-quality water provide for various uses within Burbank.

> **Policy 9.1:** Meet the goal of a 20 percent reduction in municipal water use by 2020.
>
> **Policy 9.2:** Provide public information regarding the importance of water conservation and avoiding wasteful water habits.
>
> **Policy 9.3:** Offer incentives for water conservation and explore other water conservation programs.
>
> **Policy 9.4:** Pursue infrastructure improvements that would expand communitywide use of recycled water.
>
> **Policy 9.5:** Require on-site drainage improvements using native vegetation to capture and clean stormwater runoff

City of Burbank Sustainable Use Ordinance

Section 8-2, Article 3, Sustainable Water Use Ordinance, of the Burbank Municipal Code (BMC) established procedures for implementing and enforcing sustainable water use practices to mitigate the effect of a shortage of water resources. The ordinance establishes mandatory water use practices related to outdoor uses such as irrigation of outdoor landscaped areas, washing down of driveways and walkways, use of evaporative coolers (misters), and the filling or refilling of swimming pools and spas. The ordinance also establishes mandatory restrictions on service of drinking water at restaurants, hotels, and eating establishments if not requested by customers. The ordinance establishes six incremental stages of water use restrictions and penalties in order to discourage wasteful water use practices and achieve reduced water consumption and conservation during drought conditions.

b. Wastewater

Federal Regulations

Clean Water Act (CWA)

The objective of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), is to restore and maintain the chemical, physical, and biological integrity of the nation’s waters and maintain the integrity of wetlands. The CWA seeks to regulate point and nonpoint pollution sources, providing assistance to publicly owned treatment works (commonly known as wastewater treatment plants owned by a governmental agency for the improvement of wastewater treatment).

The CWA established the NPDES, which requires a Stormwater Pollution Prevention Plan (SWPPP) to be developed and implemented for projects that disturb more than 0.5 acre of land. The State Water Resources Control Board (SWRCB) and the nine RWQCBs administer NPDES to regulate and monitor discharged waters and to ensure they meet water quality standards.

State Regulations

Porter-Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act), enacted by the State in 1969, includes provisions to address requirements of the CWA. The Porter-Cologne Act is broad in scope and addresses issues relating to the conservation, control, and utilization of the water resources of the State. The SWRCB and the RWQCBs are the State agencies with primary responsibility for the coordination and control of water quality. Porter-Cologne grants the RWQCBs authority to implement and enforce water quality laws, regulations, and plans to protect the groundwater and surface waters.

In 2006, the SWRCB adopted the Statewide General Waste Discharge Requirements for publicly owned sanitary sewer systems with greater than one mile in length that collect and/or convey untreated or partially treated wastewater to a publicly owned treatment facility in California. Under the Statewide General Waste Discharge Requirements, the owners of such systems must comply with the following requirements: (1) acquire an online account from the SWRCB and report all sanitary sewer overflows online; and (2) develop and implement a written Sewer System Management Plan (SSMP) to control and mitigate sanitary sewer overflows and make it available to any member of the public upon request in writing.

SSMP requirements are modeled on proposed Federal capacity, management, operations, and maintenance plans. The SSMP policy requires dischargers to provide adequate capacity in the sewer collection system, take feasible steps to stop sewer overflows, identify and prioritize system deficiencies, and develop a plan for disposal of grease, among other requirements. In addition, wastewater providers must report sanitary sewer overflows to the Los Angeles Regional Water Quality Control Board, must keep internal records of these overflows, and must produce an annual report on overflows. Reporting of overflows from laterals on private property, if caused by an owner, is not required.

California Code of Regulations

The California Water Code requires the Department of Health Services (DHS) to establish water reclamation criteria. In 1975, the DHS prepared Title 22 to fulfill this requirement, regulating production/use of recycled water by establishing three categories of recycled water:

- Primary effluent, that typically includes grit removal and initial sedimentation or settling tanks;
- Adequately disinfected, oxidized effluent (secondary effluent), that typically involves aeration and additional settling basins; and
- Adequately disinfected, oxidized, coagulated, clarified, filtered effluent (tertiary effluent), that typically involves filtration and chlorination.

In addition to defining recycled water uses, Title 22 defines requirements for sampling and analysis of effluent and requires specific design requirements for plants.

CCR Title 24, Part 5, establishes the California Plumbing Code, which became effective January 1, 2014, and sets efficiency standards (i.e., maximum flow rates) for all new federally regulated plumbing fittings and fixtures, including showerheads and lavatory faucets. Accordingly, the maximum flow rate for showerheads is 2.0 gallons per minute (GPM) at 80 pounds per square inch (psi) and for lavatory faucets is 1.5 GPM at 60 psi. In addition, all water closets (i.e., flush toilets) are limited to 1.6 gallons per flush (GPF) and urinals are limited to 0.5 GPF. In addition, Section 1605.3(h) establishes State efficiency standards for non-federally regulated plumbing fittings, including commercial pre-rinse spray valves.

CCR Title 24, Part 11, establishes planning and design standards for sustainable site development energy efficiency, water conservation, material conservation, and internal air contaminants. These provisions became effective January 1, 2011.

Local Regulations

Burbank Sewer System Management Plan

In compliance with SWRCP Order No. 2006-0003-DWQ, the City has adopted a Sewer System Management Plan (SSMP) that also include a Sanitary Sewer Overflow Emergency Response Plan. The SSMP addresses the operation, maintenance, design, and performance of the City's sewers and provides an overflow emergency response plan and a system evaluation and capacity assurance plan to reduce the frequency and volume of sanitary sewer overflows. Implementation of the SSMP, requires the City to (1) properly fund, manage, maintain, and operate its sanitary sewer systems to prevent sanitary sewer overflows; (2) construct and maintain the collection system using trained staff possessing adequate knowledge, skills, and abilities, as demonstrated through validated programs; and (3) fully comply with SWRCB Order No. 2006-003-DWQ.

Burbank Sewer System Evaluation and Capacity Assurance Plan

The City prepared a Sewer System Evaluation and Capacity Assurance Plan (SSECAP) in 2006 (Chapter 8 of the Burbank Sewer System Management Plan). The SSECAP includes hydraulic modeling of the City's existing wastewater system. The SSECAP also identifies areas of future study that are cost-effective and technically feasible to address both potential capacity and operational constraints and are coordinated with other improvement projects. The plan contains the following key objectives:

- Properly fund, manage, operate, and maintain all parts of the wastewater collection system;
- Provide adequate capacity to convey peak sewer flows;
- Minimize the frequency of sanitary sewer overflows (SSOs); and
- Construct and maintain the collection system using trained staff possessing adequate knowledge, skills, and abilities as demonstrated through a validated program.

The SSECAP and the City's capital improvement plan (CIP) provide hydraulic capacity of key sanitary sewer system elements for peak flow conditions, to facilitate design of sufficient capacity to accommodate runoff from storm events.

Burbank Municipal Code (BMC)

Title 8, Chapter 1, Article 1, Sewers, of the BMC establishes regulatory compliance for discharges to the publicly owned treatment works (POTW), sewer system and storm drain system for the City and requires compliance with applicable State and Federal laws, including the CWA (33 United States Code 1251 et seq.) and the general pretreatment regulations (40 Code of Federal Regulations Part 403). Per BMC Section 8-1-301, to connect to the City's main sewer line, an excavation permit and a sewer connection permit must be obtained from the Burbank Public Works Department. For sewer construction entirely on private property, the owner must obtain a plumbing permit from the Building Department, and an excavation permit from the Burbank PWD.

c. Stormwater

Federal Regulations

Clean Water Act (CWA)

The objective of the Federal Water Pollution Control Act, commonly referred to as the CWA, is to restore and maintain the chemical, physical, and biological integrity of the nation's waters and maintain the integrity of wetlands. The CWA seeks to regulate point and nonpoint pollution sources, providing assistance to publicly owned treatment works (commonly known as wastewater treatment plants owned by a governmental agency for the improvement of wastewater treatment).

The CWA established the NPDES, which requires a SWPPP to be developed and implemented for projects that disturb more than 0.5 acre of land. The SWRCB and the nine regional water quality control boards RWQCBs administer NPDES to regulate and monitor discharged waters and to ensure they meet water quality standards.

Clean Water Act Section 303(d)

Section 303(d) of the CWA (CWA, 33 USC 1250, et seq., at 1313(d)) requires states to identify "impaired" waterbodies as those which do not meet water quality standards. States are required to compile this information in a list and submit the list to the USEPA for review and approval. This list is known as the Section 303(d) list of impaired waters. As part of this listing process, states are required to prioritize waters and watersheds for future development of total maximum daily loads (TMDL). The SWRCB and RWQCBs have ongoing efforts to monitor and assess water quality, to prepare the Section 303(d) list, and to develop TMDL requirements.

National Pollutant Discharge Elimination System (NPDES)

The Federal government also administers the NPDES permit program, which regulates discharges into surface waters. The primary regulatory control relevant to the protection of water quality is the NPDES permit administered by the SWRCB. The SWRCB establishes requirements prescribing the quality of point sources of discharge and water quality objectives. These objectives are established based on the designated beneficial uses (e.g., water supply, recreation, and habitat) for a particular surface water body or groundwater basin. The NPDES permits are issued to point source dischargers of pollutants to surface waters pursuant to Water Code Chapter 5.5, which implements the Federal CWA. Examples include, but are not limited to, public wastewater treatment facilities, industries, power plants, and groundwater cleanup programs discharging to surface waters (SWRCB, Title 23, Chapter 9, Section 2200). The RWQCB establishes and regulates discharge limits under the NPDES permits.

Projects that will disturb more than one acre of land during construction are required to file a Notice of Intent with the SWRCB to be covered under the NPDES Construction General Permit for discharges of stormwater associated with construction activity. The project proponent must develop measures that are consistent with the Construction General Permit. Furthermore, a SWPPP must be developed and implemented for each site covered under the Construction General Permit. The SWPPP describes the BMPs the discharger will use to protect stormwater runoff and reduce potential impacts on surface water quality through the construction period. The SWPPP must contain the following:

- A visual monitoring program;
- A chemical monitoring program for nonvisible pollutants (to be implemented if a BMP failure occurs); and
- A sediment monitoring plan if the site discharges directly to a water body on the 303(d) list for sediment.

State Regulations

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Water Quality Control Act of 1970 (Porter-Cologne Act) established the SWRCB and divided the state into nine regional basins, each with a RWQCB. The Project is located within the jurisdiction of the Los Angeles RWQCB. The SWRCB is the primary state agency with responsibility to protect surface water and groundwater quality. The Porter-Cologne Act authorizes the SWRCB to draft policies regarding water quality in accordance with CWA Section 303. In addition, the Porter-Cologne Act authorizes the SWRCB to issue waste discharge requirements for projects that would discharge to state waters. These requirements regulate discharges of waste to surface and groundwater, regulate waste disposal sites, and require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

The Porter-Cologne Act requires the SWRCB or the RWQCBs to adopt water quality control plans (basin plans) and policies for the protection of water quality. The Basin Plan must conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State Water Policy. The Basin Plan must:

- Identify beneficial uses for the water to be protected,
- Establish water quality objectives for the reasonable protection of the beneficial uses, and
- Establish an implementation program for achieving the water quality objectives.

Basin plans also provide the technical basis for determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. Basin plans are updated and reviewed every 3 years in accordance with Article 3 of Porter-Cologne Act and CWA Section 303(c).

California Toxics Rule

The California Toxics Rule is a USEPA-issued federal regulation that provides water quality criteria for potentially toxic constituents in California surface waters with designated uses related to human health or aquatic life. The rule fills a gap in California water quality standards that was created in 1994 when a state court overturned the state's water quality control plans containing water quality criteria for priority toxic pollutants. These federal criteria are legally applicable in the State of California for inland surface waters, enclosed bays, and estuaries for all purposes and programs under the CWA. The California Toxics Rule establishes two types of aquatic life criteria:

- Acute criteria represent the highest concentration of a pollutant to which aquatic life can be exposed for a short period of time without harmful effects; and
- Chronic criteria equal the highest concentration to which aquatic life can be exposed for an extended period of time (4 days) without deleterious effects.
- Due to the intermittent nature of stormwater runoff (especially in southern California), the acute criteria are considered to be more applicable to stormwater conditions than chronic criteria.

State Antidegradation Policy

Under the State Antidegradation Policy, whenever the existing quality of waters is better than what is needed to protect present and future beneficial uses, such existing quality must be maintained. This state policy has been adopted as a water quality objective in all the State's Basin Plans. The State policy establishes a two-step process to determine if discharges with the potential to degrade the water quality of surface or groundwater will be allowed.

The first step requires that, where a discharge would degrade high-quality water, the discharge may be allowed only if any change in water quality would:

- Be consistent with the maximum benefit to the people of the state;
- Not reasonably affect present and anticipated beneficial uses of such water; and
- Result in water quality that is not less than that prescribed in state policies (i.e., Basin Plans).

The second step states that any activity resulting in discharge to high-quality waters is required to use the best practicable treatment or control of the discharge necessary in order to avoid the occurrence of pollution or nuisance and to maintain the "highest water quality consistent with the maximum benefit to the people of the state." The State policy applies to both surface and groundwater, as well as to both existing and potential beneficial uses of the applicable waters.

In 1999, the SWRCB issued and subsequently amended the General Construction Stormwater Permit that governs discharges from construction sites that disturb 1 acre or more of surface area. Again, on September 2, 2009, the SWRCB adopted a new General Construction Permit that substantially alters the approach taken to regulate construction discharges through (1) requiring the determination of risk levels posed by a project's construction discharges to water quality and (2) establishing numerical water quality thresholds that trigger permit violations. These new permit regulations took effect on July 1, 2010.

California Code of Regulations – Recycled Water Regulations (Titles 22 and 17)

Titles 22 and 17 of the CCR include regulations for the various uses of recycled water within the state. According to the CCR, recycled water used for the following purposes shall be at least disinfected secondary-23 recycled water: (1) industrial boiler feed, (2) nonstructural firefighting, (3) backfill consolidation around non-potable piping, (4) soil compaction, (5) mixing concrete, (6) dust control on roads and streets, (7) cleaning roads, sidewalks and outdoor work areas, and (8) industrial process water that will not come into contact with workers. The CCR also requires that spray, mist, or runoff of recycled water does not enter dwellings, designated outdoor eating areas, or food handling facilities. Drinking water fountains must also be protected against contact with recycled water spray, mist, or runoff. No irrigation with, or impoundment of, disinfected secondary-2.2 or disinfected secondary-2.3 recycled water can take place within 100 feet of any domestic water supply well.

Municipal Regional Stormwater NPDES Permit

On November 8, 2012, the RWQCB adopted Order R4-2012-0175, the MS4 Permit. Order R4-2012-0175 became effective on December 28, 2013 and serves as the NPDES permit for coastal watershed stormwater and non-stormwater discharges originating from the Los Angeles County region. The permit covers the land areas in the Los Angeles County Flood Control jurisdiction, unincorporated areas of Los Angeles County, and 84 cities in the County. The City of Burbank is included in the MS4 Permit as a permittee under Order R4-2012-0175.

In coordination with permittees under MS4 Permit, RWQCB staff performs annual performance reviews and evaluations of the City's stormwater management program and NPDES compliance activities.

Local Regulations

City of Burbank Low Impact Development (LID) Ordinance

On June 16, 2015, the Burbank City Council adopted a LID Ordinance in compliance with the requirements of the MS4 Permit. The City uses the LID Ordinance to review and permit development and redevelopment projects that qualify under the triggering requirements of the ordinance. Qualifying development projects are directed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention, and/or rainfall harvest and use. The intent of the LID ordinance is to retain stormwater runoff on site in a manner that is similar to predevelopment conditions.

Los Angeles County Department of Public Works Hydrology Manual

The Los Angeles County Department of Public Works Hydrology Manual (2006) contains the Standard Urban Stormwater Mitigation Plan (SUSMP) that applies to development and re-development projects in Los Angeles County. The SUSMP is described in detail below. The Hydrology Manual also includes TMDLs for pollutants per Section 303 of the CWA and BMPs for managing stormwater quality during construction. As the holder of the MS4 Permit, the RWQCB is responsible for enforcing these BMPs.

Los Angeles County Standard Urban Stormwater Mitigation Plan (SUSMP)

The SUSMP is a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment in Los Angeles County. The purpose of the SUSMP is to reduce the discharge of pollutants in stormwater by outlining BMPs that must be incorporated into the design plans of new development and redevelopment. The SUSMP requirements contain a list of minimum BMPs that must be employed to infiltrate or treat stormwater runoff, control peak flow discharge, and reduce the post-Project discharge of pollutants from stormwater conveyance systems. The SUSMP requirements define, based upon land use type, the types of practices that must be included and issues that must be addressed as appropriate to the development type and size. The SUSMP requirements apply to all development and redevelopment projects that fall into one of the following categories:

- Single-family hillside residences
- One acre or more of impervious surface area for industrial/commercial developments
- Automotive service facilities
- Retail gasoline outlets
- Restaurants
- Ten or more residential units
- Parking lots of 5,000 square feet or greater or with 25 or more spaces
- Projects located in or directly discharging to an Ecologically Sensitive Area

The SUSMP requirements are administered, implemented, and enforced through the Community Development Department Building and Safety Division and final review would be conducted by the Chief Building Official. During the review process, individual development project plans are reviewed for compliance with stormwater requirements.

Water Quality Control Plan for the Los Angeles Region (Basin Plan)

The County of Los Angeles is under the jurisdiction of RWQCB Region 4 (Los Angeles Region). The RWQCB provides permits for projects that may affect surface waters and groundwater locally, and is responsible for preparing the Water Quality Control Plan for the Los Angeles Region (Basin Plan). The Basin Plan designates beneficial uses of water in the region and establishes narrative and numerical water quality objectives. Water quality objectives, as defined by the CWA Section 13050(h), are the “limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses or the prevention of nuisance within a specific area.” The State has developed TMDLs that are a calculation of the maximum amount of a pollutant that a water body can have and still meet water quality objectives established by the region.

Enhanced Watershed Management Program (EWMP) Plan

Conditions of the MS4 Permit require that all permittees develop a watershed management plan on an individual or joint basis that will address water quality issues in the permitee's jurisdictional area. The City of Burbank is a member of the Los Angeles River Watershed Management Group's EWMP. The EWMP submitted its Revised EWMP Plan to the RWQCB for review in January 2016 and the Plan was approved in April 2016. The EWMP Plan, along with a Coordinated Monitoring Plan, serves as a guiding document for implementing water quality improving infrastructure, policies, and programs.

City of Burbank General Plan 2035

On February 19, 2013, the City of Burbank approved the updated elements of the Burbank2035 General Plan, except for the Housing Element which was adopted in January 2014. The General Plan is certified through 2035. The updates are intended to refine policies regarding long-term growth in the community through the year 2035 and to ensure that the General Plan reflects current State law (Burbank 2013). The goal and policies applicable to stormwater are presented below.

Goal 6: Flood Safety

Potential risks—such as injury, loss of life and property, and economic and social disruption—caused by flood and inundation are minimized.

> **Policy 6.5:** Enforce regulations prohibiting the draining of rainwater into the sewer system.
>
> **Policy 6.6:** Prepare and update a stormwater master plan to ensure proper maintenance and improvements to storm drainage facilities.
>
> **Policy 6.7:** Employ strategies and design features to reduce the area of impervious surface in new development projects.

Goal 9: Water Resources

Adequate sources of high-quality water provide for various uses within Burbank.

> **Policy 9.5:** Require on-site drainage improvements using native vegetation to capture and clean stormwater runoff

d. Solid Waste

State Regulations

Assembly Bill 1327

The California Solid Waste Reuse and Recycling Access Act of 1991 or Assembly Bill (AB) 1327, as amended, requires each local jurisdiction in the State to adopt an ordinance requiring commercial, industrial, or institutional buildings; marinas; or residential buildings having five or more living units to provide an adequate storage area for the collection and removal of recyclable materials. The City passed an ordinance in 1997.

Assembly Bill 939 and Senate Bill 1016

The California Integrated Waste Management Act of 1989, or Assembly Bill (AB) 939, established the Integrated Waste Management Board, required the implementation of integrated waste management plans, and mandated that local jurisdictions divert at least 50 percent of all solid waste generated (from 1990 levels), beginning January 1, 2000, and divert at least 75 percent by 2010. In 2006, SB 1016 updated the requirements. The updated per capita disposal and goal measurement system moves the emphasis from an estimated diversion measurement number to using an actual disposal measurement number as a factor, along with evaluating program implementation efforts. These two factors will help determine each jurisdiction's progress toward achieving its AB 939 diversion goals. The 75 percent diversion requirement is now measured in terms of per-capita disposal expressed as pounds per person per day.

Assembly Bill 341

The purpose of AB 341 is to reduce GHG emissions by recycling commercial solid waste rather than diverting it for landfill disposal, and to expand the opportunity for additional recycling services and recycling manufacturing facilities in California. In addition to Mandatory Commercial Recycling, AB 341 sets a statewide goal for 75 percent disposal reduction by the year 2020.

Construction and Demolition Waste Materials Diversion Program Requirements (SB 1374)

In 2002, Construction and Demolition Waste Materials Diversion Requirements (SB 1374) added California Public Resources Code Section 42912, requiring jurisdictions to include in their annual AB 939 report a summary of the progress made in diverting construction and demolition waste. The legislation also requires that CalRecycle adopt a model ordinance for diverting 50 to 75 percent of all construction and demolition waste from landfills.

Zero Waste California

Zero Waste California is a State program launched by CalRecycle in 2002 to promote a new vision for the management of solid waste. Zero waste provides that wasting resources is inefficient and that the efficient use of natural resources should be achieved. The concept requires maximizing existing recycling and reuse efforts, while ensuring that products are designed for the environment and have the potential to be repaired, reused, or recycled. The Zero Waste California program promotes the goals of market development, recycled product procurement, and research and development of new and sustainable technologies.

California Green Building Standards Code (CALGreen)

Effective January 1, 2017, the State’s Green Building Code requires developers of newly constructed buildings to develop a waste management plan to divert 60 percent of the construction waste generated by project construction. Builders or developers are required to submit a construction waste management plan to the appropriate jurisdiction’s enforcement agency. The City has adopted the 2019 CALGreen Code as part of its Municipal Code.

Local Regulations

County of Los Angeles Integrated Waste Management Plan

The County of Los Angeles Integrated Waste Management Plan (CoIWMP), approved by the CIWMB in 1999, sets forth a regional approach for the management of solid waste through source reduction, recycling and composting, and environmentally safe transformation and disposal. The CoIWMP ensures that the waste management practices of cities and other jurisdictions in the County are consistent with the solid waste diversion goals of AB 939 through source reduction, recycling and composting programs, household hazardous waste management programs, and public education awareness programs. The plan calls for the establishment of 50 years of in-County permitted landfill capacity, as well as the County's support for the development of disposal facilities outside the County.

The County continually evaluates landfill needs and capacity through the preparation of the CoIWMP annual reports. Within each annual report, future landfill disposal needs over the next 15-year planning horizon are addressed, in part, by determining the available landfill capacity. The most recent annual report is the 2012 report, completed in August 2013.

As part of the CoIWMP, the County prepared the Countywide Siting Element which identified goals, policies, and strategies for the proper planning and siting of solid waste disposal and transformation facilities over 15 years, through year 2014. The latest Siting Element was approved by CalRecycle in 2016 and, as with the previous Siting Element, provides strategic planning over a 15-year horizon, through year 2031.

Burbank Municipal Code (BMC)

Title 4, Chapter 2, Article 1, *Solid Waste Management*, of the BMC establishes regulatory compliance for the collection, removal and disposal of garbage, solid waste, green waste, and recyclable material within the City.

Burbank Construction and Demolition Debris Diversion Ordinance

The Construction and Demolition Debris Ordinance was designed to meet the goals of the California Waste Management Act (SB 1374), which requires all cities and counties in the State to reduce the amount of waste materials deposited in landfills by 65 percent. The ordinance requires new building projects meeting specified size requirements to divert and recycle at least 65 percent of their construction and demolition debris. To obtain a building permit from the City, proponents for projects meeting specified size requirements must prepare and implement a Waste Management Plan (WMP) that outlines how much scrap and debris would be generated during construction, what proportion of this debris would be diverted and how, and the final destination for both the diverted and non-diverted components of construction debris (City of Burbank 2016).

City of Burbank Sustainability Action Plan and Zero Waste Policy

In January 2008, the City Council adopted the Sustainability Action Plan to support the United Nations' Urban Environmental Accords. The Sustainability Action Plan addresses the City's efforts toward providing a clean, healthy, and safe environment. The Accords include 21 specific actions organized into seven urban themes designed to collectively address urban sustainability concerns. The themes include energy, waste reduction, urban design, urban nature, transportation, environmental health, and water (City of Burbank 2008a). Action items related to waste include zero waste, manufacturer responsibility, and consumer responsibility. As part of the Sustainability Action Plan, the City adopted the Zero Waste Strategic Plan, which includes a goal to achieve zero waste by 2040. The Zero Waste Plan includes four basic strategies, with a priority placed on “upstream” solutions to eliminate waste before it is created. The plan also includes actions to build on the City’s traditional “downstream” recycling programs to fully utilize the existing waste diversion infrastructure (City of Burbank 2008b). The four basic strategies include:

1. Advocate for Manufacturer Responsibility for Product Waste and Support Elimination of Problem Materials
2. Adopt New Rules and Incentives to Reduce Waste
3. Expand and Improve Local and Regional Recycling and Composting
4. Educate, Promote, and Advocate a Zero Waste Sustainability Agenda

e. Telecommunications, Electricity, and Natural Gas

Federal Regulations

Federal Energy Regulatory Commission

The Federal Energy Regulatory Commission (FERC) regulates the interstate transmission of electricity, natural gas, and oil. The FERC is an independent Agency. The Energy Policy Act of 2005 gave FERC additional responsibilities in its capacity. The Federal Communications Commission (FCC) regulates interstate and international communications by radio, television, wire, satellite, and cable in all 50 states.

State Regulations

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates private and investor-owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies.

The CPUC regulates natural gas rates and natural gas services, including in-state transportation over the utilities' transmission and distribution pipeline systems, storage, procurement, metering, and billing.

California Energy Commission

The CEC regulates publicly owned utilities (POUS), like BWP, as it comes to compliance with state mandates. However, the City Council ensures the City’s compliance with regulations and reporting and compliance filings for Burbank Water and Power, as it relates to power supply, is regulated through the CEC. The CEC is the state’s primary energy policy and planning agency.

California Air Resources Board

The California Air Resources Board (CARB) regulates electric utilities, including BWP, as it comes to compliance with emissions related activities. CARB manages the Mandatory Greenhouse Gas (GHG) Reporting Regulation which includes regulations that mandate GHG reporting for retail providers and operators. CARB also manages the Cap-and-Trade Program which is an offset tool to minimize State GHG emissions.

Senate Bill 100

SB 100 modifies the State Renewable Portfolio Standards (RPS) and establishes robust clean energy goals. SB 100 modifies the RPS from requiring that 50 percent of electricity be procured by renewable electricity sources by 2030 (set by SB 350), to 60 percent by 2030. In addition, SB 100 sets a goal of a 100 percent zero-carbon resource portfolio by 2045.

Senate Bill 1368

SB 1368 also referred to as the Emissions Performance Standard, prohibits purchase arrangements for baseload energy for periods of longer than five years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. The purpose is to limit carbon emissions associated with electrical energy consumed in California. Coal-fired plants cannot meet this standard because these plants emit roughly twice as much carbon as combined cycle natural gas power plants. SB 1368 effectively prevents California's utilities from investing in, financially supporting, or purchasing power from new coal plants located in or out of the State.

California Green Building Standards Code (2019), California Code of Regulations Title 24

California's Green Building Code, referred to as CalGreen, was developed to reduce GHG emissions from buildings, promote environmentally responsible, cost-effective, healthier places to live and work, reduce energy and water consumption, and respond to the environmental directives of the administration. The most recent version of CalGreen (January 2019) lays out the minimum requirements for newly constructed residential and nonresidential buildings to reduce GHG emissions through improved efficiency and process improvements. It also includes voluntary tiers to encourage building practices that improve public health, safety, and general welfare by promoting a more sustainable design.

Local Regulations

Burbank2035 General Plan

The Burbank2035 General Plan includes an Air Quality and Climate Change Element as well as an Open Space and Conservation Element, both of which address energy efficiency and overall energy reduction the City. The goals and policies of each element are intended to increase the City's overall energy efficiency and help achieve the City's goal of using 100 percent clean energy. The goals and policies applicable to energy resources are presented below:

Burbank2035 Land Use Element

Goal 2: Sustainability

Burbank is committed to building and maintaining a community that meets today's needs while providing a high quality of life for future generations. Development in Burbank Respects that environmental and conserves natural resources.

- **Policy 2.3:** Require that new development pay its fair share for infrastructure improvements. Ensure that needed infrastructure and services are available prior to or at project completion.

Burbank2035 Air Quality and Climate Change Element

Goal 3: Reduction of Greenhouse Gas Emissions

Burbank seeks a sustainable, energy-efficient future and complies with statewide greenhouse gas reduction goals.

Policy 3.4: Reduce greenhouse gas emissions from new development by promoting water conservation and recycling; promoting development that is compact, mixed-use, pedestrian-friendly, and transit-oriented; promoting energy-efficient building design and site planning; and improving the jobs/housing ratio.

Policy 3.6: Reduce greenhouse gas emissions by encouraging the retrofit of older, energy inefficient buildings.

Policy 3.8: Transition all economic sectors, new development, and existing infrastructure and development to low- or zero-carbon energy sources. Encourage implementation and provide incentives for low- or zero-carbon energy sources.

Policy 3.9: Continue efforts to diversify Burbank Water and Power's energy portfolio beyond 2020.

Burbank2035 Open Space and Conservation Element

Goal 9: Water Resources

Burbank seeks to provide adequate sources of high-quality water for uses throughout the City.

Policy 9.1: Meet the goal of a 20 percent reduction in municipal water use by 2020.

Policy 9.2: Provide public information regarding the importance of water conservation and avoiding wasteful water habits.

Policy 9.3: Offer incentives for water conservation and explore other water conservation programs.

Policy 9.4: Pursue infrastructure improvements that would expand communitywide use of recycled water.

Policy 9.5: Require on-site drainage improvements using native vegetation to capture and clean stormwater runoff.

Goal 10: Energy Resources

Burbank conserves energy, uses renewable energy sources, zero-carbon energy sources and promotes sustainable energy practices that reduce pollution and fossil fuel consumption.

Policy 10.1: Incorporate energy conservation strategies in City projects.

Policy 10.2: Promote energy-efficient design features to reduce fuel consumption for heating and cooling.

Policy 10.3: Continue to acquire alternative fuel vehicles like hybrid, natural gas, electric, or hydrogen-powered vehicles when adding to the City's vehicle fleet.

Policy 10.4: Encourage residents and businesses to reduce vehicle use or to purchase alternative fuel vehicles.

Policy 10.5: Promote technologies that reduce use of non-renewable energy resources.

Policy 10.6: Support private sources of sustainable, environmentally friendly energy supplies.

Policy 10.7: Encourage the use of solar energy systems in homes and commercial businesses as a form of renewable energy.

Burbank Municipal Code (BMC)

Title 8, Chapter 2, *Utilities*, of the BMC establishes regulatory compliance for rules, regulations, fees, charges, and other additional requirements related to energy and energy use within the City.

4.12.3 Impact Analysis

a. Thresholds of Significance

To determine whether a project would result in a significant impact related to Utilities and Service Systems, thresholds were developed based on Appendix G of the *State CEQA Guidelines*. The impact would be significant if the proposed Project would meet the criteria below.

1. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects
2. Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple-dry years
3. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments
4. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals
5. Not comply with federal, state, and local management and reduction statutes and regulations related to solid waste

The Initial Study (Appendix A) determined that the project would result in no impacts related to compliance with solid waste statutes and regulations; therefore, this issue is not studied further herein. The Initial Study (Appendix A) also determined that potential impacts to energy and natural gas would be less than significant under the State CEQA Guidelines Appendix G Environmental Checklist issue area for *Energy*; however, because the Initial Study also determined that impacts to energy and natural gas would be potentially significant under the issue area for *Utilities and Service Systems*, these topics are therefore addressed further herein for the purposes of this EIR.

b. Methodology

Impacts related to utilities and service systems were evaluated by forecasting utility demands associated with the proposed Project and comparing such demands to current and planned service system capacity. Utility and service system demands of the proposed Project were quantified where possible, based upon readily available public information and industry standards, with all assumptions identified in the analysis below. Where insufficient data was available to quantify utility and service system demands, such demands are discussed qualitatively in order to inform the impact analysis.

c. Project Impacts

Threshold 1:	Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Impact UTIL-1 REASONABLY FORESEEABLE DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD REQUIRE UTILITY SERVICE AND CONNECTIONS FOR WATER SUPPLY, WASTEWATER CONVEYANCE, AND STORMWATER CONVEYANCE, AS WELL AS TELECOMMUNICATIONS, ELECTRICITY, AND NATURAL GAS. EXISTING UTILITY SYSTEMS FOR WATER, ELECTRIC POWER, NATURAL GAS, AND TELECOMMUNICATIONS FACILITIES IN BURBANK HAVE SUFFICIENT CAPACITY TO SERVE REASONABLY FORESEEABLE DEVELOPMENT. HOWEVER, NEW CONNECTIONS TO EXISTING OR EXPANDED WASTEWATER SERVICE SYSTEMS WOULD BE REQUIRED, AND SUCH CONNECTIONS COULD RESULT IN POTENTIALLY SIGNIFICANT ENVIRONMENTAL EFFECTS. NONETHELESS, IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.

Reasonably foreseeable development under the Housing Element Update would involve up to 10,456 new housing units by 2029. The Safety Element Update would not involve new development so would not affect utilities or service systems. Impacts associated with the Housing Element Update are discussed below. As mentioned under *Thresholds of Significance*, above, the topic of solid waste is not assessed herein because the Initial Study determined that potential impacts would be less than significant and therefore do not require further analysis.

Water Supply

Construction activities associated with reasonably foreseeable development under the Housing Element Update would require recycled water for dust suppression, concrete manufacturing, and such activities as washing wheels and equipment. Temporary construction recycled water would be trucked to active construction sites or produced from existing fire hydrants near the applicable site(s), with City approval. Temporary construction water demands would not require new connections or conveyance facilities, as existing or mobile facilities would be used.

New water supply connections and associated facilities would be required for future developments, to convey potable water supply to future housing developments. Such upgrades would occur within existing utility easements and would be located underground, primarily within existing roadways. Housing development under the proposed Project would be located in previously developed areas that are either currently zoned for residential development or would be rezoned for residential development under the proposed Project. As shown in Figure 2-2 of Section 2, *Project Description*, the proposed Project area is previously disturbed and largely urbanized. Due to the built-up nature of this area, there are substantial existing utility rights-of-way previously established, largely within existing roadways, which are prevalent. New water service connections that may be required for development associated with the proposed Project would be conducted within previously disturbed areas and existing rights-of-way, and would be consistent with utility expansion in urbanized areas, such that minimal areas of new disturbance would occur. Although all parcels in Burbank have access to public utility infrastructure, in some cases the infrastructure is older and in need of replacement or insufficient to meet the needs of a particular project. Pursuant to General Plan Land Use Policy 2.3, new development is required to pay for their share of upgrading the utility infrastructure as needed to serve their project. This may include installing larger water mains, new water meters, and/or upgrades to existing facilities.

Developers are responsible for funding any infrastructure improvements that are required to mitigate project impacts and have not been previously identified as part of a capital improvement program covered by the development impact fees. Consistent with applicable State law, the City's development fees will ensure that the developers pay the cost attributable to the increased demand for the affected public facilities reasonably related to the development project in order to refurbish the existing facilities to maintain the existing level of service and achieve an adopted level of service that is consistent with the City's General Plan (California Government Code Section 66001(g)).

As individual housing projects are proposed and considered for approval by the City, project proponents would be required to demonstrate that any identified system deficiencies reasonably related to the development project are adequately addressed by the responsible project proponent and future upgrades are designed in accordance with the BMC and to the satisfaction of the City Engineer. In addition, the City requires applicants to coordinate with the Burbank Fire Department and City of Burbank Building and Safety Division to ensure that existing and planned fire hydrants provide sufficient fire flow pressure requirements. The City's issuance of building permits is contingent upon review, testing, and approval that sufficient fire flow pressure is provided for the applicable site. Due to the existing built-up nature of the City, it is reasonably anticipated that future improvements for water supply and fire flow requirements would not disturb previously undisturbed areas and would be situated within existing utility rights-of-way, such as but not limited to within public roadways.

Water supply for new housing developments would be provided by BWP, which purchases imported surface water supplies from the SWP and the Colorado Aqueduct via Metropolitan, as well as local groundwater supplies which are pumped by the City in accordance with groundwater credits consistent with the local Adjudication Judgment for the underlying groundwater basin. The availability and reliability of water supply for the proposed Project is addressed below, under Impact UTIL-2. Potential impacts related to relocation or construction of water supply facilities would be less than significant.

Wastewater

Reasonably foreseeable development under the proposed Project would require new connections for wastewater conveyance. As described in Section 4.13.1(b) above, wastewater conveyance in Burbank is provided by approximately 230 miles of City-owned and operated underground pipelines and associated pump stations. The Burbank Public Works Department is responsible for the maintenance of the City's sewer mainlines, while individual property owners are responsible for the maintenance of the sewer laterals that connect buildings to mainlines. All structures producing sewage or liquid waste in the City of Burbank must be connected to the sewer system mainline by sewer lateral lines, which require issuance of an excavation permit and a sewer connection permit from the Public Works Permit Section (Burbank 2021). All sewer connections are subject to a Sewer Service Charge (SSC). For residential developments such as those that would occur under the proposed Project, the SSC is not based on water usage rates, but rather on the actual costs associated with providing sewer services (Burbank 2021). The majority of wastewater generated in the City is conveyed to the BWRP for treatment prior to discharge in accordance with an existing NPDES permit. Project impacts related to wastewater treatment capacity at BWRP are discussed further under Impact UTIL-3.

Reasonably foreseeable development under the Housing Element Update would occur in compliance with the requirements of BMC Chapter 8-1, *Sewers*, which establishes City standards related to wastewater discharge, peak flow, and sewer capacity. New connections to the City sewer system, including the construction of new laterals connecting to the sewer mainline, would be subject to permitting approval by the City of Burbank Public Works Permit Section (Burbank 2021). To the extent that sewer pipeline upgrades may be necessary as reasonably foreseeable development under the proposed Project occurs, such upgrades would occur either within existing utility easements to the maximum extent practicable or when determined necessary through project sewer capacity analysis, the construction of new facilities and/or upgrades to existing ones, and any required upgrades resulting from the Project are necessary to mitigate potential significant impacts to the City's wastewater system. New wastewater conveyance connections are allowed and will be the responsibility of the private property owner to connect their private sewer lateral to the City sewer main provided that the appropriate permits are obtained, and sufficient capacity exists prior to construction. Although all parcels in Burbank have access to public utility infrastructure, in some cases the infrastructure is older and in need of replacement to meet the needs of a particular project. Pursuant to *Burbank2035* General Plan Land Use Policy 2.3, new development is required to pay for their share of upgrading the utility infrastructure as needed to serve their project. Based on project-specific conditions and General Plan policy related to ensuring sufficient wastewater infrastructure to support projects as envisioned through the Housing Element, a sewer capacity analysis would be required for individual projects to determine the applicable development fees and any physical improvements that would be needed to ensure the City's wastewater system can adequately address the needs of these future developments envisioned under the proposed Project and continue to meet the needs of surrounding land uses within the Project area and the community as a whole. Based on the results of the sewer capacity analysis, these improvements may include, but not be limited to installing new or larger sewer lines and/or upgrading existing facilities.

Developers are responsible for funding any infrastructure improvements that are required to mitigate project impacts as part of a capital improvement program covered by the development fees. Consistent with applicable State law, the City's development fees would ensure that the developers pay the cost attributable to the increased demand for the affected public facilities reasonably related to the development project, such that existing facilities can maintain the necessary capacity to serve existing and future demand and achieve an adopted level of service that is consistent with the City's General Plan (California Government Code Section 66001(g)). However, where sanitary sewer capital upgrades are needed because of new development, the developer would be responsible for payment of applicable sewer infrastructure fees and any physical improvements to the wastewater system that are necessary to serve the project as determined by the Director of Public Works prior to the proposed project's construction.

Development under the proposed Project would be in previously developed areas that are either currently zoned for residential development or would be rezoned for residential development under the proposed Project. Due to the built-up nature of this area, there are substantial existing utility rights-of-way previously established, largely within existing roadways, which are prevalent. New wastewater service connections that may be required as a direct result of new development associated with the proposed Project would be conducted within previously disturbed areas, existing rights-of-way, and, in some cases, a new easement would be created. Nonetheless, these connections would be subject to City approval prior to the issuance of building permits.

While individual projects conducted under the Housing Element Update would require new wastewater conveyance connections, such connections would be designed and permitted on a project-specific basis. In addition, future project proponents have a legal obligation for all future wastewater upgrades to be designed in accordance with the BMC and to the satisfaction of the Director of Public Works or their designee. However, as noted above, where sanitary sewer capital upgrades are needed it is possible that a new development may require new or expanded facilities to serve the project prior to the proposed project's construction (at cost to the developer). Therefore, impacts to new or expanded wastewater conveyance associated with build-out of future housing development projects associated with the Housing Element would be potentially significant.

Stormwater

Reasonably foreseeable residential development under the Housing Element Update would not result in a substantial increase in impervious surfaces since it would be focused in urban infill areas already largely covered with impervious surfaces. Compliance with Sections 9-3-413 and 9-3-414 of the BMC would ensure that future development projects resulting from the Housing and Safety Element Update would be implemented with appropriately sized and sited stormwater conveyance facilities. In the long-term, redevelopment of properties in the City is anticipated to improve the quality of stormwater runoff by replacing older development with new development that incorporates Low Impact Development (LID) methods. LID methods include features such as stormwater detention basins and vegetated swales that slow the velocity of surface runoff and filter some water quality constituents before the runoff percolates to the underlying groundwater system or is conveyed through the City's, or Los Angeles County Flood Control District's (LACFCD), stormwater infrastructure. In accordance with the BMC, post-construction stormwater runoff from new projects must be captured and used to the maximum extent practicable, including through the implementation of on-site BMPs for stormwater management. Therefore, while individual housing developments would include site-specific stormwater drainage and conveyance facilities, such facilities would be designed and built in accordance with the BMC and BMPs for stormwater management. Potential impacts related to relocation or construction of new wastewater conveyance facilities would be less than significant.

Telecommunications, Electricity, and Natural Gas

Telecommunications services are provided by private companies, at the discretion of the customer. Electricity in Burbank is provided by BWP, and natural gas is provided by the Southern California Gas Company (SCG). Each of these utility areas are addressed below, with respect to the potential of the proposed Project to result in impacts.

Telecommunications

The City is highly urbanized with existing above- and below-ground telecommunications infrastructure. Telecommunications services are provided by ONE Burbank, AT&T, EarthLink, Spectrum or other providers, at the discretion of current and future residents. Reasonably foreseeable development under the proposed Project would increase demand for existing telecommunications in the City. Individual telecommunication providers implement planned improvements throughout their service areas on an as-needed basis, which are typically limited to small-scale upgrades and new facilities in existing developed areas. Construction of additional telecommunications facilities or upgrades to existing facilities to meet demands from the proposed Project would be undertaken by private telecommunication service providers in accordance with applicable federal, state, and local regulations. Telecommunications are generally available in the City and substantial upgrades to existing telecommunications facilities would not likely be necessary. Necessary facility upgrades to accommodate new service connections would be undertaken by individual telecommunication providers. No restrictions on the ability to provide adequate telecommunication service are present or anticipated to occur as a result of the proposed Project. In addition, due to the built-up nature of the City and the nature of telecommunication upgrades being small-scale and sited within the development footprint of new projects, potential impacts associated with new or expanded facilities would be less than significant.

Electricity

Electricity in Burbank is provided by BWP, which maintains a fully functional system of above-ground and underground electrical facilities, primarily found along roadways throughout the City of Burbank. In addition to electrical power conveyance lines, there are numerous electrical substations throughout the City, from which these conveyance lines flow. Future housing developments that would occur under the proposed Project would require electric power, natural gas, and telecommunications facilities. The services would be provided by BWP, through new future connections that would be implemented on a project-specific basis, and subject to the review and approval of BWP.

Numerous plans by BWP have shifted the generation of electric power to renewable sources of energy. The most recent plan, BWP's *2019 Final Power Integrated Resource Plan* (IRP), identifies a planning tool that is central to the continued reliability of the BWP power system while meeting all regulatory requirements through 2038 (BWP 2019). The 2019 IRP provides analysis of the State of California's increased RPS, set by SB 100, of 60 percent renewable energy sources by 2030. Achievement of the RPS includes expansion of local solar power generation, energy storage, and transportation electrification efforts over a 20-year horizon. In order to ultimately achieve a 100 percent zero-carbon resource portfolio as set by SB 100 by 2045, BWP is taking actions to reduce non-renewable energy sources, including the 2025 retirement of BWP's share of the Intermountain Power Project (IPP) coalfired generating plant in Utah. BWP is looking at several alternative energy options including implementing solar, wind, and batteries to help replace energy that has traditionally been sourced from the Utah IPP coal resource. BWP will procure resources that meet or exceed state clean energy standards, while maintaining reliability of the grid is a cost-effective manner.

To help achieve the City's renewable energy source goals, BWP may integrate the following issues into future resource planning analysis:

- **Rate Design:** Design time-varying rates that encourage customers to shift their consumption away from higher cost periods to lower cost periods
- **Demand Response (DR).** Consider cost-effective BWP customer DR programs
- **Beneficial Electrification.** Enhance and extend BWP efforts to encourage growth in beneficial electrification that reduces GHG emissions, including electric vehicles.
- **Disadvantaged Communities.** Develop and implement a program to target disadvantaged communities with selected BWP energy efficiency, demand response, and beneficial electrification programs.
- **IPP Coal Replacement.** Work with LADWP and other IPP participants to determine resources that will replace the IPP coal plant when it is retired in 2025.
- **Transmission Delivery for Renewables.** Identify options and costs for transmission delivery of large quantities of renewable energy resulting from SB 100.
- **Solar Over-Generation.** Work to mitigate the impact of solar generation (including morning and afternoon ramping, overgeneration, and instantaneous intermittency) such that reliability and affordability are maintained.
- **Resource Positioning.** Position BWP's resources to balance supply and demand on the grid ad increased renewable energy sources come online, thereby minimizing costs and

maximizing energy reliability for Burbank. In this connection, evaluate further improvement in the operational flexibility of the Magnolia Power Project.

The City's movement towards the contracting of new renewable energy sources, through Power Purchase Agreement, as discussed above, will further bolster the City's ability to meet energy demands associated with future population growth. In addition, BWP is taking action to diversify energy generation sources, improve energy storage capabilities, and secure future energy reliability. These efforts are implemented to address the challenges of the power grid's baseload reliability, which can fluctuate with the introduction of many renewable energy sources to the grid. This fluctuation is directly tied to the fluctuating nature of energy captured; for example, solar energy is only accumulated during optimum sunlight hours, while energy is consumed 24 hours per day. Therefore, diversification of energy sources is critical to providing reliably energy supply, when incorporating substantial new sources of renewable energy to a power grid. BWP's efforts toward energy source diversification are consistent with the California Independent System Operator Corporation (CAISO) *2019-2020 Transmission Plan*, which provides a comprehensive evaluation of the California energy transmission grid to identify upgrades needed to successfully meet California's policy goals (CAISO 2019).

New connections for electrical power would be implemented on a project-by-project basis. As shown in Figure 2-2 of Section 2, *Project Description*, the proposed Project area is previously disturbed and largely urbanized. Due to the built-up nature of this area, there are substantial existing utility rights-of-way previously established, largely within existing roadways, which are prevalent. New electricity service connections that may be required for development associated with the proposed Project would be conducted within previously disturbed areas and existing rights-of-way, and would be consistent with utility expansion in urbanized areas. Although all parcels in Burbank have access to public utility infrastructure, in some cases the infrastructure is older and in need of replacement or insufficient to meet the needs of a particular project. Pursuant to General Plan Land Use Policy 2.3, new development is required to pay for their share of upgrading the utility infrastructure as needed to serve their project. This may include new electrical transformers, new transmission lines and/or new substations.

Developers are responsible for funding any infrastructure improvements that are required to mitigate project impacts and have not been previously identified as part of a capital improvement program covered by the development impact fees. Consistent with applicable State law, the City's development fees will ensure that the developers pay the cost attributable to the increased demand for the affected public facilities reasonably related to the development project in order to refurbish the existing facilities to maintain the existing level of service and achieve an adopted level of service that is consistent with the City's General Plan (California Government Code Section 66001(g)).

Therefore, potential impacts would be less than significant.

Natural Gas

Natural gas infrastructure is located throughout Burbank, typically underground and beneath existing paved roadways. Reasonably foreseeable development under the Housing Element Update would increase the demand for natural gas and associated connections. Natural gas is provided by the SCG, which projects total gas demand to decline at an annual rate of approximately one percent per year from 2020 through 2035. The decline is due to modest economic growth, and CPUC mandates for energy efficiency (EE) standards and programs. Other factors that contribute to the downward trend are tighter standards created by revised Title 24 Codes and Standards, renewable electricity goals, a decline in core commercial and industrial demand, and conservation savings linked to Advanced Metering Infrastructure. Pursuant to the 2020 *California Gas Report*, SCG will meet its projected demand for natural gas resources through at least year 2026, as determined by modeled forecasts (SCG 2020).

Although development associated with the proposed Project would increase the number of natural gas connections in Burbank, all new development would be designed for consistency with the CPUC mandates for implementing EE standards and practices. In addition, as development of additional renewable energy sources for the City continues to expand as discussed above, it is reasonably inferred that demand for natural gas will decrease due to the increased diversity of the City's energy supply portfolio. Therefore, although natural gas connections would likely increase under the proposed Project, the per capita demand for natural gas in the City is expected to continue decreasing, through compliance with CPUC mandates for EE standards and practices, and through the greater diversification of energy supplies to include a suite of renewable energy sources in addition to natural gas. New connections for natural gas would be implemented on a project-by-project basis and would be implemented within previously disturbed areas and existing rights-of-way. Potential impacts to natural gas would be less than significant.

Mitigation Measure

The following mitigation measure has been incorporated to identify any sewer service constraints and determine if there are any sewer capacity issues and necessary mitigations relative to each opportunity site identified in the Project.

UTIL-1 Sewer Service Constraints Analysis

- The City will conduct an analysis to identify any sewer service constraints to determine if there are any sewer capacity issues and any constraints in the City's wastewater system including assessment of system capacity relative to the locations of opportunity sites identified in the Housing Element Update. The analysis will identify upgrades necessary to mitigate the constraints in the system to ensure that individual housing development projects implemented under the Housing Element can be completed and that sufficient capacity and conveyance in the wastewater system exists. However, if a proposed development has a construction schedule that the City cannot accommodate, the developer may be responsible for performing the necessary sewer infrastructure upgrades per Burbank Municipal Code (BMC) 8-1-304.
- Based on the constraints identified in the analysis, the City's Public Works Department will prepare a nexus fee study to develop a fair share requirement in the form of a wastewater connection or similar project impact fee, which helps to pay for implementation of upgrades necessary to accommodate future development, including development of the opportunity sites where deficiencies in the system are identified to exist. Through the fee study, subsequent cost recovery fees applied to individual housing development projects will be based on a rough proportionality related to demands on the system reasonably attributed to the development project.
- In the event it is determined that necessary upgrades to serve a project cannot be completed by the City prior to project completion, the City may require the developer to perform the necessary sewer infrastructure upgrades (Per BMC 8-1-304) at cost to the developer, or may choose to enter into a reimbursement agreement so that a developer may fund and construct the improvements within the necessary timeframe with subsequent partial reimbursement. If the City and Developer mutually agree to enter into reimbursement agreement (approved as to

form by the City Attorney and approved by the City Council), it would be administered by the City's Public Works Director on behalf of the City.

Significance After Mitigation

Mitigation Measure UTIL-1 would require a sewer service constraints analysis that would be developed by the Public Works Department. The subsequent analysis would provide the necessary information to allow the Public Works Department to initiate work on preparing a fee study to identify a wastewater connection fee that facilitates the recovery of City's costs of future upgrades necessary to address identified constraints that are attributed to the type of development being proposed and proportional to the individual project's impact to the City's wastewater system. The development of a sewer service constraints analysis as designed and developed the Public Works Department (the plan for addressing existing and future demands), and the resulting wastewater connection fee, would be further bolstered by the City's establishment of a process to allow reimbursement agreements (approved as to form by the City Attorney and approved by the City Council), between the City and the developer for projects that must construct improvements to serve the project ahead of the City's implementation. The noted plan, cost recovery fee, and reimbursement agreement process collectively result in Mitigation Measure UTIL-1 would reduce the noted potential significant impacts to the City's wastewater conveyance system to less than significant.

Threshold 2:	Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Impact UTIL-2 **REASONABLY FORESEEABLE DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD REQUIRE A TEMPORARY RECYCLED WATER SUPPLY DURING CONSTRUCTION AND A LONG-TERM WATER SUPPLY DURING OPERATION AND MAINTENANCE. WATER SUPPLY WOULD BE PROVIDED BY THE CITY OF BURBANK, WHICH PURCHASES IMPORTED SURFACE WATER FROM THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA AND RECEIVES GROUNDWATER CREDITS TO SUPPLEMENT ITS PURCHASED WATER SUPPLY WITH LOCALLY PRODUCED GROUNDWATER. GROWTH UNDER THE PROPOSED PROJECT IS ACCOUNTED FOR IN THE CITY OF BURBANK URBAN WATER MANAGEMENT PLAN, AS INFORMED BY THE GENERAL PLAN, AND SUFFICIENT WATER SUPPLIES ARE AVAILABLE TO SERVE REASONABLY FORESEEABLE DEVELOPMENT. POTENTIAL IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

As discussed in Section 4.14.1, *Setting*, water supply in Burbank is provided by BWP, which purchases imported surface water supplies from Metropolitan. The City overlies the San Fernando Valley Groundwater Basin but does not have overlying landowner rights to produce groundwater because the basin is adjudicated and managed in accordance with Upper Los Angeles River Adjudication Judgment, administered by the Upper Los Angeles River Area Watermaster as the Watermaster. Although the City is not party to the Adjudication Judgment, it receives groundwater credits based upon the amount of water BWP imports to Burbank that eventually infiltrates through the ground surface to recharge the underlying groundwater basin (BWP 2021b). Accordingly, Burbank receives groundwater credits equivalent to 20 percent of the total water distributed in the City, including as recycled water (BWP 2021b). These groundwater credits allow BWP to produce groundwater from four City-owned wells, which the City treats to meet State and Federal drinking water standards.

Reasonably foreseeable development under the Housing Element Update would involve up to 10,456 new residential units, which may occur anywhere in the City where residential uses are currently permitted, as well as in areas that may be rezoned in the future to allow for multi-family residential and mixed use of adequate density. As discussed in Section 2.2, *Land Use*, of the City's current (2020) UWMP, the City expects that new residential development will be predominantly multi-family (BWP 2021a), which is consistent with the Housing Element Update, as assessed herein. The City's 2020 UWMP also reports that 2020 potable water demand was 138 gallons per capita per day (gpcd), indicating a slight bounce-back after drought restrictions, but not returning to pre-drought levels. In addition, the City's 2020 UWMP reports that water usage in the City is projected to increase to 150 gpcd in 2025, then gradually increase by 2045 to 170 gpcd. Burbank intends to maintain such trends in a sustainable manner through the continued implementation of drought-period conservation efforts as well as long-term plans and programs.

As discussed in Section 4.9, *Population and Housing*, the City of Burbank's average household size is 2.45 individuals. Accordingly, the proposed Project's increase of 10,456 residential units could generate a population increase of approximately 25,617 individuals. Assuming a per capita water demand of 170 gpcd in 2045, as discussed above, the additional population of 25,617 individuals (based on 10,456 new housing units) would increase potable water demand by 4,354,890 gallons per day, which equates to approximately 4,878 AFY. This represents approximately 22 percent of the City's available water supply in 2045 under normal water year (non-drought) conditions, as shown in . The water supply availability information provided in was sourced from the City's 2020 UWMP, which is informed by growth projections provided in the Housing Element, which has been updated with the current Housing Element Update, assessed herein.

Therefore, as discussed above, the increased housing that would occur under the proposed Project would increase citywide water demand by up to 4,878 AFY, or approximately 22 percent of the City's available water supply in 2045. In addition, although population growth has continued to increase, citywide water demand throughout Burbank has declined compared to the early 1970s due to efficient water use after major droughts in the 1970s, 1990s, and especially in response to the previous significant water shortage and closure of major industries (BWP 2021a). The Burbank2035 General Plan includes policies and programs in the Land Use Element as well as the Open Space and Conservation Element to address water resources and prepare Burbank for the possible consequences of climate change on water supply availability. Such policies include using native or drought-tolerant plants in landscaping, using recycled water in irrigation, and promoting all possible water conservation efforts (Burbank 2013). Conservation efforts would continue to be implemented and expanded as development associated with the proposed Project is constructed, and it is reasonably anticipated that conservation efforts will continue to be effective at reducing water demands.

As mentioned above, the City of Burbank's primary water supply is comprised of imported SWP and Colorado River water purchased by BWP from Metropolitan. The City also receives credits to use locally produced groundwater for 20 percent of all water supply distributed in the City because imported water supplies from outside the City ultimately recharge local groundwater through infiltration from landscaping, as well as through infiltration of recycled water produced at the BWRP. These groundwater credits diversify the City's water supply portfolio and further bolster water supply reliability within the City. In addition, because the amount of groundwater credits received by the City is a factor of the total amount of water imported to the City, as water demands increase and the corresponding amount of water imported to the City increases, the amount of groundwater credits received by the City will also increase. Table 4.12-1 summarizes BWP's current and projected water supplies, as provided in the City's 2020 UWMP, and delineates both supplies purchased from Metropolitan as well as supplies available through groundwater credits (indicated as "Supplier-Produced Groundwater" and recycled water.

Table 4.12-1 Burbank Water Supplies – Current and Projected

Water Supplies (acre-feet)	2020	2025	2030	2035	2040	2045
Potable						
Metropolitan Treated Potable	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
Potable Total	**16,162**	**18,062**	**20,380**	**21,386**	**21,712**	**22,010**
Non-Potable						
Metropolitan Replenishment	152	6,800	6,800	6,800	6,800	6,800
Recycled Water[1]	3,149	3,540	3,540	3,540	3,540	3,540
Non-Potable Total	**3,301**	**10,340**	**10,340**	**10,340**	**10,340**	**10,340**

[1] Recycled water is produced at the BWRP by treating wastewater conveyed from throughout the City.

Note: Recycled water includes proposed deliveries to Los Angeles in exchange for groundwater credits. The amounts estimated for untreated replenishment depend on these Los Angeles exchange amounts. If less recycled water is exchanged for groundwater credits, the difference must be made up by increased replenishment purchases.

Source: BWP 2021a

As shown in Table 4.12-1, the City's potable water demands are anticipated to increase between years 2020 and 2045. Burbank primarily sources its supply from Metropolitan, such that the City's primary water supply is imported surface water purchased in amounts matching demand. BWP reports that citywide water demands have decreased compared to the 1970s even as population has increased. In addition, as shown in Table 4.12-1, the City's non-potable water supplies are anticipated to increase between the years 2020 and 2045 due to the continued expansion of recycled water uses and programs throughout the City, specifically at the BWRP. As discussed above, the increased housing that would occur under the proposed Project would increase citywide water demand by up to 4,878 AFY, or approximately 22 percent of the City's available water supply in 2045, which will continue to be sources primarily from Metropolitan.

Metropolitan's projected supply allocations for Burbank are shown in Table 4.12-2, for comparison with the City of Burbank demand projections as shown in Table 4.12-1. Metropolitan estimates future water demands for Burbank and the entire region using its Econometric Demand Model, developed by the Brattle Group. BWP utilizes Metropolitan's projections to provide the basis for dry-year (drought) water supply reliability planning.

Table 4.12-2 Metropolitan Wholesale Supply Allocation for Burbank

Source	2020 (actual)	2025	2030	2035	2040	2045
Treated Potable	6,165	7,407	9,722	10,714	11,012	11,310
Untreated Groundwater Replenishment	152	6,800	6,800	6,800	6,800	6,800

Notes: Units in acre-feet (AF)

MWD Replenishment supply was especially low in 2020 due to previous recharge of large quantities of surplus water through MWD's cyclic storage program. Over the long term, Burbank projects the need to recharge approximately 6,800 AFY to balance groundwater inventory.

Source: BWP 2021a

Table 4.12-1 indicates that Metropolitan's treated potable water supply allocation for the City of Burbank in 2020 was 6,165 AF. In comparison, Table 4.12-2 indicates that the City of Burbank purchased 6,165 acre-feet of treated potable water from Metropolitan in 2020. As such, the City's demand for treated potable water in 2020 was equal to the demand projected by Metropolitan. The City's demand and Metropolitan's demand projections remain equal over time under all climatic conditions considered, and in the year 2045, the City's demand for potable treated water is projected to be 11,310 AF, which is also the same as Metropolitan's projection. Metropolitan further details supply and demand projections under normal water year conditions, singly dry year (drought) conditions, and multiple dry year (extended drought) conditions, as shown in Table 4.12-3 through Table 4.12-5below.

Table 4.12-3 BWP Normal Year Supply and Demand

Sources	2025	2030	2035	2040	2045
Potable					
Normal Year Supply	18,062	20,380	21,386	21,712	22,010
Normal Year Demand	18,062	20,380	21,386	21,712	22,010
Non-Potable					
Normal Year Supply	10,340	10,340	10,340	10,340	10,340
Normal Year Demand	10,340	10,340	10,340	10,340	10,340

Units in acre-feet (AF)

Source: BWP 2021

Table 4.12-4 BWP Single Dry Year Supply and Demand

Sources	2025	2030	2035	2040	2045
Potable					
Single Dry Year Supply	17,989	20,298	21,300	21,625	21,922
Single Dry Year Demand	17,989	20,298	21,300	21,625	21,922
Non-Potable					
Single Dry Year Supply	10,340	10,340	10,340	10,340	10,340
Single Dry Year Demand	10,340	10,340	10,340	10,340	10,340

Units in acre-feet (AF)

Source: BWP 2021

Table 4.12-5 LVMWD Multiple Dry Year Supply and Demand

Sources	2025	2030	2035	2040	2045
First Year- Potable					
First Dry Year Supply	18,214	20,730	21,693	22,111	22,406
First Dry Year Demand	18,214	20,730	21,693	22,111	22,406
First Year- Non-Potable					
First Dry Year Supply	10,340	10,340	10,340	10,340	10,340
First Dry Year Demand	10,340	10,340	10,340	10,340	10,340
Second Year- Potable					
Second Dry Year Supply	18,600	20,935	21,693	22,172	22,406
Second Dry Year Demand	18,600	20,935	21,693	22,172	22,406
Second Year- Non-Potable					
Second Dry Year Supply	10,340	10,340	10,340	10,340	10,340
Second Dry Year Demand	10,340	10,340	10,340	10,340	10,340
Third Year- Potable					
Third Dry Year Supply	18,986	21,139	21,693	22,232	22,406
Third Dry Year Demand	18,986	21,139	21,693	22,232	22,406
Third Year- Non-Potable					
Third Dry Year Supply	10,340	10,340	10,340	10,340	10,340
Third Dry Year Demand	10,340	10,340	10,340	10,340	10,340
Fourth Year- Potable					
Fourth Dry Year Supply	19,373	21,344	21,891	22,293	22,406
Fourth Dry Year Demand	19,373	21,344	21,891	22,293	22,406
Fourth Year- Non-Potable					
Fourth Dry Year Supply	10,340	10,340	10,340	10,340	10,340
Fourth Dry Year Demand	10,340	10,340	10,340	10,340	10,340

Sources	2025	2030	2035	2040	2045
Fifth Year- Non-Potable					
Fifth Dry Year Supply	19,759	21,549	21,958	22,354	22,406
Fifth Dry Year Demand	19,759	21,549	21,958	22,354	22,406
Fifth Year- Non-Potable					
Fifth Dry Year Supply	10,340	10,340	10,340	10,340	10,340
Fifth Dry Year Demand	10,340	10,340	10,340	10,340	10,340

Units in acre-feet (AF)

Source: BWP 2021

As shown above, Metropolitan projects that water supply will be equal to water demand under all climatic conditions considered, such that water supply reliability is 100 percent through the year 2045 (BWP 2021a). This is partly due to the effectiveness of conservation programs implemented throughout the planning period. The projections shown above for imported surface water supply availability from Metropolitan indicate that sufficient supplies are available to the City to meet projected demands. These projections are based upon the City’s 2020 UWMP which reflects population growth associated with the Housing Element Update, as well as additional supplies associated with expansion of the City’s current water supply portfolio through increased conservation and conjunctive use management efforts. Since BWP water demands are accounted for in the supply availability projections identified above, and with consideration to BWP’s access to local groundwater supplies and recycled water supplies, both of which are expected to increase over time, it is reasonably anticipated that sufficient water supply is available for the proposed Project demands.

As noted in the City’s UWMP, future development projects that meet the definition of “project” in the California Water Code as amended by Senate Bill 610 are required to develop a project-specific WSA. A WSA is required for several types of development projects, and specifically for residential developments of 500 or more units, or projects that would introduce a water demand equivalent to or greater than that of a 500-unit residential development. In accordance with California Water Code, a WSA is required to evaluate the availability and reliability of water supply over a 20-year projection and with consideration to varying climatic (drought) conditions, similar to the types of projections provided in the UWMP as shown in . Project-specific WSAs are subject to the review and approval of BWP, as the water supplier throughout Burbank, and WSAs will be considered in BWP supply planning documents, including future iterations of the UWMP. As discussed above, based upon the City’s 2020 UWMP and supply availability projections, as well as projected demands associated with the proposed Project, it is reasonably anticipated that sufficient water supply is available to meet future water demands in the City.

In addition to the anticipated sufficiency and reliability of existing and planned water supplies in Burbank, BWP and Metropolitan are actively developing and implementing water supply-related projects that further bolster the reliability of future water supplies. These projects include but are not limited to: an increase of up to 200 AFY of expanded water recycling activities at BWRP; development of North Hollywood Operable Unit wells for expanded potable reuse supplies at the Burbank Operable Unit; and a feasibility study to assess opportunities for indirect potable reuse / direct potable reuse, thereby further bolstering available future supplies (BWP 2021a). Through these efforts, BWP anticipates that recycled water will play an integral role in future water supplies.

In summary, regulatory orders and management agencies ensure the sustainability and reliability of water supplies currently used in the City of Burbank. In addition, BWP and Metropolitan have identified potential future supply sources to augment water supplies and further insulate the region from hydrological uncertainty. Therefore, sufficient water supplies are available to serve reasonably foreseeable development under the proposed Project, including reasonably foreseeable future development during normal (water year), dry-year, and multiple-dry-year (drought) conditions. Potential impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Threshold 3:	Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Impact UTIL-3 **WASTEWATER GENERATED IN THE CITY OF BURBANK IS CONVEYED TO AND TREATED AT THE BURBANK WATER RECLAMATION PLANT. REASONABLY FORESEEABLE DEVELOPMENT UNDER THE PROPOSED PROJECT WOULD INCREASE WASTEWATER GENERATION COMMENSURATE WITH THE INCREASED POPULATION. SIGNIFICANT TREATMENT CAPACITY IS CURRENTLY AVAILABLE AT THE BWRP TO TREAT INCREASED WASTEWATER GENERATED AS A RESULT OF THE PROJECT. HOWEVER, BASED ON THE SEWER GENERATION RATES THAT WERE CALCULATED FOR THE PROPOSED PROJECT, ALONG WITH CONSTRAINTS WITHIN THE CITY'S TREATMENT SYSTEM, POTENTIALLY SIGNIFICANT IMPACTS COULD RESULT ON A PROJECT-SPECIFIC BASIS WITH NO FEASIBLE MITIGATION AT THE CURRENT PLAN LEVEL. THEREFORE IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.**

As discussed in Section 4.13.1(b), all wastewater generated in the City of Burbank is conveyed via sewer laterals to the sewer mainline, which conveys wastewater to the BWRP for treatment and reuse as applicable. The BWRP has a design capacity of 12.5 mgd and currently treats approximately 8.5 mgd (BWP 2021a). The BWRP produces a disinfected tertiary effluent that is discharged to either the Burbank Western Channel or the City's recycled water distribution system for non-potable use, which is conducted in compliance with an existing NPDES permit issued by the Los Angeles RWQCB. The City has substantially expanded its recycled water program through petitions filed with and approved by the SWRCB, to change the place of use and purpose of use for treated wastewater from the BWRP to the Burbank Western Channel, which flows to the Los Angeles River (SWRCB 2018). As such, average daily flow rates to BWRP have decreased in recent years due to the successful implementation of water conservation measures that have resulted in less wastewater generated per capita. Water usage is projected to increase to 150 gpcd for 2025, and then gradually increase by 2045 to 170 gpcd (BWP 2021a). Wastewater generation would be reduced by water reuse efforts and programs which are currently being expanded by BWP, such as reusing graywater for landscaping and other non-potable purposes.

The proposed Housing Element Update would increase wastewater generation and the amount of wastewater conveyed to the BWRP for treatment.

The estimated wastewater generated by the Project was calculated using the City's Department of Public Works sewage generation rates, including a 2.5 peaking factor, to determine if the existing sewer system has the adequate capacity to convey sewage from the existing properties and the proposed developments.[1] As discussed in Section 2, *Project Description*, the estimated growth for the purpose of the EIR analysis is 10,456 housing units to account for the 2029 interpolated housing growth assumed under the two Specific Plans along with the City's RHNA allocation. Furthermore, the City projects approximately 1.4 million square feet of new commercial space (with an allowance of up 10 percent of that to be restaurant space) as part of the Housing Element Update. Based on the City's wastewater generation rates (and including a peaking factor of 2.5), the Project would generate an estimated 6.3 million gallons per day (mgd) (Burbank, N.d).[2] As previously stated, the BWRP's current available treatment capacity is 4 mgd, which would not be sufficient to accommodate a conservative estimate of 6.3 mgd of wastewater generated by a full buildout of the proposed Housing Element Update.

The City of Burbank Public Works Department is responsible for maintaining, replacing, and upgrading the City's sewer collection and treatment system. The Public Works Department conducts repairs and upgrades as necessary to accommodate the wastewater conveyance and treatment demands throughout the City. As specific development projects are proposed and evaluated, General Plan Land Use Element Policy 2.3 would require developers to pay their fair share for infrastructure improvements as needed to serve their project, and ensure that needed infrastructure and services are available prior to or at project completion, this may include the requirement that the developer pays for and performs the necessary sewer infrastructure upgrades, per BMC 8-1-304. In addition, the projected wastewater generation rates identified herein do not account for the effectiveness of ongoing and future conservation programs at reducing water use rates and associated wastewater generation rates. Wastewater generation rates will likely be less than projected herein, as water use efficiencies reduce water use rates and corresponding wastewater generation rates. However, as discussed in Impact UTIL-1, based on the City's most recent analysis of the sewer system, constraints within the system could result from subsequent build out of housing development projects under the Project depending on location, timing, and size/scale of the project, and it cannot be assumed that necessary upgrades can always be completed prior to project completion based on the constraints. As a result, measures under Mitigation Measure UTIL-1 provide for an updated sewer service constraints analysis that identifies any such constraints and necessary mitigations relative to each opportunity site identified in the Project. The measure also requires an assessment of the need to prepare a cost of service and rate study to determine the updated sewer service charges and sewer facilities charges for the recovery of development fees for implementation of the upgrades necessary to address the identified constraints. This may also result in the creation of a process for reimbursement agreement (approved as to form by the City Attorney and approved by the City Council) for projects that must construct improvements to serve the project ahead of the City's implementation. To reiterate, the developer may also be required to pay for and build improvements to the wastewater system as of result of their project impacts.

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[1] City of Burbank Public Works Department sewage generation rates available at: https://www.burbankca.gov/documents/174714/1196790/Sewage+Generation+Rates.pdf/5a6181e4-4f22-906e-bc32-9c29b18cb417?t=1618365964641.

[2] Per the City's wastewater generation rates, multi-family apartment units generate 183 gallons per day (gpd) per unit, single-family residences generate 215 gpd per unit, restaurants generate 2,272.65 gpd per 1,000 sf, and commercial/retail uses generate 85.39 gpd per 1,000 sf. It is assumed that 10% of the mixed-use area is allocated to restaurants and 90% is allocated to retail. Therefore, based on these rates and a 2.5 peak factor, the Project will generate 6,275,625.16 gpd:
2.5 * [(5,385 multi-family units * 183 gpd/unit) + (5,071 single-family units * 215 gpd/unit) + (1,285,947 sf of commercial/retail use * 0.08539 gpd/sf) + (142,883 sf of restaurant use * 2.27265 gpd/sf)]
2.5 * [985,455 gpd + 1,090,265 gpd + 109,807.01 gpd + 324,723.05 gpd]
2.5 * 2,510,250.06 gpd = 6,275,625 gpd

Although significant treatment capacity is currently available at the BWRP to treat wastewater generated because of the Project, the BWRP's capacity is 4 mgd, which would not be sufficient to accommodate a conservative estimate of 6.3 mgd of wastewater generated by a full buildout of the Housing Element Update. Therefore, the Housing Element Update would result in potentially significant impacts to wastewater treatment capacity.

Mitigation Measures

Mitigation Measure UTIL-1 would address potential impacts related to the City's wastewater conveyance system but would not address potential impacts associated with exceedance of the available wastewater treatment capacity at BWRP associated with full buildout of the Housing Element Update.

Significance After Mitigation

Public Works is currently working on a both Cost of Service/Rate Study and Needs Assessment for the BWRP. In addition, Public Works will also be initiating a new Sewer Master Plan in FY 2022/23 to evaluate the City's sewer conveyance and treatment system over the next twenty years. It is noted that the above studies will take approximately one to two years to be completed, and that the final recommendations will not be available at the time the Housing Element is scheduled to be approved. Therefore, no feasible mitigation measure is identified at the plan level to reduce impacts to wastewater treatment capacity associated with the Project and impacts would remain significant and unavoidable.

Threshold 4: Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Impact UTIL-4 SOLID WASTE CONVEYANCE AND DISPOSAL SERVICES IN BURBANK ARE PROVIDED BY THE STREET AND SOLID WASTE DIVISION OF PUBLIC WORKS WHICH TRANSPORTS SOLID WASTE TO THE CITY-OWNED AND OPERATED BURBANK LANDFILL. SUFFICIENT CAPACITY IS AVAILABLE AT THE BURBANK LANDFILL TO ACCOMMODATE SOLID WASTE DISPOSAL VOLUMES ASSOCIATED WITH REASONABLY FORESEEABLE DEVELOPMENT UNDER THE PROPOSED PROJECT. IMPACTS WOULD BE LESS THAN SIGNIFICANT.

As described in Section 4.13.1, *Setting*, the Street and Solid Waste Division of Public Works is responsible for the collection of solid waste, green waste, recyclables, and bulky items. The City owns and operates the Burbank Landfill, located in the Verdugo Hills at the eastern edge of Burbank, which is expected to have an operational lifetime through year 2150. Solid waste received and processed at Burbank Landfill is 100 percent single family residential, and approximately 50 percent of multi-family and 10 percent commercial solid waste throughout the City. As of 2019, Burbank Landfill had a remaining capacity of 4,843,582 cy, or approximately 82 percent of the maximum permitted capacity of 5,933,365 cy (Los Angeles County 2020; CalRecycle 2019b). The maximum permitted intake to Burbank Landfill is 240 tons (436 cy) per operating day, while the average intake is approximately 123 tons (244 cy) per day, or approximately 51 percent of the permitted daily intake (Los Angeles County 2020). As such, Burbank Landfill has approximately 117 tons (192 cy) of its permitted daily intake available, or approximately 49 percent of the permitted daily intake.

Solid waste generation rates depend on the land use type, with multi-family residential units generating approximately four pounds per dwelling unit per day (lb/du/day), consistent with outputs from the CalEEMod prepared for the proposed Project. If all 10,456 new housing units included under the proposed Project are constructed as multi-family residential units, this equates to approximately 40,352 lb/day (20.2 tons) of solid waste. As stated above, the Burbank Landfill has average daily available permitted capacity of 117 tons (192 cy) per day, or approximately 49 percent of the permitted daily intake. Accordingly, sufficient solid waste disposal capacity is available at Burbank Landfill to meet the potential needs associated with reasonably foreseeable development under the proposed Project; although, new sources of solid waste will inevitably lower the overall lifespan of the Burbank Landfill. In addition, as discussed in Section 4.13.1(d), “Solid Waste,” multiple landfill facilities in southern California also accept and process solid waste from Burbank. In addition to the Burbank Landfill, approximately 50 percent of new wastes from multi-family residential development generated in Burbank will be transported to and disposed of at seven other southern California landfills including Burbank Landfill Site No. 3, Chiquita Canyon Sanitary Landfill, Sunshine Canyon City/County Landfill, Simi Valley Landfill and Recycling Center, Puente Hills Landfill, Lancaster Landfill and Recycling Center, and Olinda Alpha Sanitary Landfill (Burbank 2013), which will lower their lifespans while still maintaining sufficient capacity. Therefore, potential impacts from future residential development projects facilitated by the Housing Element will be mitigated through payment of fees charged for new development commensurate with the cost to transport the waste out of the City; such fees are adjusted annually as needed to ensure cost recovery.

Based upon the existing capacity of landfills available to the City, the solid waste generated by reasonably foreseeable development under the proposed Project would not require the development of new or expanded solid waste facilities but, over time, will contribute to the need as other municipalities expand their housing. The proposed Project would not generate solid waste is excess of State or local standards or otherwise impair the attainment of solid waste reduction goals. Potential impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

4.12.4 Cumulative Impacts

Cumulative impacts may occur if impacts of the proposed Project combine with similar impacts of other projects in the geographic and temporal scope of cumulative analysis. The proposed Project, including future housing development facilitated by the proposed Project, in conjunction with cumulative development citywide and within neighboring cities that are also served by the respective service areas, would increase demands for utilities that could require facility expansion or construction. Potential impacts would be site-specific and would require evaluation on a case-by-case basis at the project level when future development is proposed in accordance with the proposed project. Each cumulative project would require separate review , which would address potential impacts to utilities and service systems, as well as the identification and implementation of project-specific mitigation measure as identified under UTIL-1, including conducting an updated sewer service constraints analysis to identify deficiencies in existing utility systems and a resulting update in City fees for new development projects to help offset the cost of any future necessary upgrades on a project-specific basis as deemed necessary. The geographic scope of analysis for utilities and service systems varies depending on the service addressed, as discussed below.

Water Supply

The geographic extent of cumulative analysis for the topic of water supply includes all of Metropolitan's service territory because Metropolitan provides the primary water supply source to the City, as purchased imported surface water. As discussed in the impact analysis above, full buildout of the proposed Housing Element Update would increase water demands throughout the City. Past and ongoing trends indicate that while population increases, per capita water consumption rates decrease, likely due to the effectiveness of conservation and drought response programs. In addition, the City continues to develop alternative water supplies to supplement the imported surface water supplies purchased from Metropolitan, through recycled water at the BWRP as well as local groundwater, which the City receives credits to use based upon the total amount of water imported to the City. Other projects that are anticipated to occur during implementation of projects under the Housing Element Update include non-residential developments, primarily in the form of commercial land uses. While these cumulative projects would also introduce new water demands, future development would be consistent with the City's General Plan, which informs the City's UWMP to project water supply availability and reliability, including as related to imported surface water from Metropolitan as well as locally developed water supplies including recycled water and groundwater. In addition, as with projects under the Housing Element Update, future projects in the cumulative scenario would be subject to the same regulatory orders and management agencies as the proposed Project that ensure the sustainability and reliability of water supplies currently used in the City of Burbank. In addition, BWP and Metropolitan have identified potential future supply sources to augment water supplies and further insulate the region from hydrological uncertainty. Therefore, sufficient water supplies are available to serve reasonably foreseeable development under the proposed Project and other projects in the cumulative scenario for water supply during normal year, dry year, and multiple dry-year conditions. Potential cumulative impacts associated with water supply would be less than significant.

Wastewater

The geographic extent of cumulative analysis for the topic of wastewater includes the Public Works Department's service territory as wastewater conveyance and treatment throughout the City is conducted by the City's Public Works Department. As discussed in the impact analysis above, new wastewater service connections would be installed as needed, on a project-specific basis; this would occur for non-residential developments within the cumulative scenario as it would for residential developments under the proposed Project. The Public Works Department conducts repairs and upgrades to the existing City-owned wastewater conveyance system throughout the City on an as-needed basis. However, as specific development projects are proposed and evaluated, General Plan Land Use Element Policy 2.3 would require developers to pay their fair share for infrastructure improvements as needed to serve their project, and ensure that needed infrastructure and services are available prior to or at project completion, this may include the requirement that the developer pays for and performs the necessary sewer infrastructure upgrades, per BMC 8-1-304. With implementation of Mitigation Measure UTIL-1 (Sewer Service Constraints Analysis), cumulative impacts related to wastewater conveyance would be less than significant.

Wastewater generation for full buildout of the proposed Housing Element Update is estimated to be up to approximately 6.3 mgd, which is not within the City's currently available treatment capacity of 4 mgd. Therefore, impacts would be, significant and unavoidable due to constraints within the sewer system and development under the proposed Project would contribute to a cumulatively significant impact associated with wastewater generation.

Stormwater

The geographic extent of cumulative analysis for the topic of stormwater includes the entire City of Burbank because the Public Works Department and LACFCD operates and maintain the Citywide stormwater conveyance system. Non-residential projects in the cumulative scenario would introduce project-specific needs for stormwater conveyance that would be reviewed and permitted on a project-by-project basis by the City. Due to the extensive built-up nature of the City, new development is not anticipated to introduce substantial new areas of impervious surfaces, such that substantial expansion of existing stormwater conveyance infrastructure would be necessary. Therefore, potential cumulative impacts associated with stormwater would be less than significant.

Solid Waste

The geographic extent of cumulative analysis for solid waste is the entire City of Burbank as all solid waste within the City is collected and transported for landfill disposal at one of seven southern California landfills, including Burbank Landfill Site No. 3, Chiquita Canyon Sanitary Landfill, Sunshine Canyon City/County Landfill, Simi Valley Landfill and Recycling Center, Puente Hills Landfill, Lancaster Landfill and Recycling Center, and Olinda Alpha Sanitary Landfill (City of Burbank 2013). The Street and Solid Waste Division of the Burbank PWD provides solid waste collection services for all single-family residences, 50 percent of multifamily residences, and approximately 10 percent of the City’s commercial/industrial refuse customers. All other uses are served by private solid waste hauling companies which also transfer solid waste from Burbank to one of the aforementioned landfill sites for disposal. The cumulative scenario for solid waste is characterized by non-residential developments that would require solid waste hauling and disposal; such developments would include commercial and industrial land uses, which are primarily served by private waste hauling companies. Based on the existing capacity of landfill sites in the vicinity of Burbank, including the Burbank Landfill which has a remaining disposal capacity of approximately 82 percent (of the maximum permitted capacity) and is estimated to remain operational through 2150, sufficient landfill disposal capacity is anticipated to be available to accommodate cumulative projects. Therefore, potential cumulative impacts associated with solid waste would be less than significant.

Telecommunications, Electricity, and Natural Gas

The geographic extent of cumulative analysis for telecommunications, electricity, and natural gas includes the entire service territories of the providers for each of these utilities.

Telecommunications

Telecommunications services in Burbank are provided by private companies, including AT&T, EarthLink, and Spectrum, among others, and telecommunications facilities are generally available throughout the City. Connections for new telecommunications services are implemented on an as-needed basis, and the service provider used is generally at the discretion of the customer. Cumulative projects will establish telecommunications service connections in the same manner as residential developments under the proposed Project. There are no anticipated limitations to the availability of telecommunications service. Potential cumulative impacts associated with telecommunications would be less than significant.

Electricity

Electric power supply throughout the City is provided by BWP. Residential uses in Burbank represent the second most energy intensive land use serviced by BWP (287.6 GWh), behind commercial and building (507.8 GWh). Future housing in the City would be implemented in accordance with the Housing Element Update assessed herein, such that projects in the cumulative scenario for energy are non-residential uses, which are generally more energy-intensive than residential uses such as would occur under the proposed Project. As with the proposed Project, other projects in the cumulative scenario would require electric service and would be connected to electricity through BWP. BWP's unaudited power mix from the PCL, which shows total generation delivered for a calendar year, divided by retail sales (not renewable energy credits retired) for 2020 consisted of approximately 31 percent renewable resources (wind, geothermal, biomass, solar, and small hydroelectric), 26 percent coal, 31 percent natural gas, eight percent nuclear, two percent hydroelectric, and the remainder from other sources (BWP 2020). As such, although electricity usage within the City is anticipated to increase as cumulative projects are implemented, BWP has a diverse power supply portfolio that includes renewable resources as well as traditional power sources and electricity.

In addition, BWP has numerous plans that are being implemented to shift the generation of electric power to renewable sources of energy. The most recent plan, BWP's 2019 *Final Power Integrated Resource Plan*, identifies a planning tool that is central to the continued reliability of the BWP power system while meeting all regulatory requirements through 2038 (BWP 2019). BWP is also looking at expanding several alternative energy options including implementing solar, wind, and batteries to help replace energy that has traditionally been sourced from the IPP coal resource. Through the continued expansion of alternative energy sources and compliance with the State's RPS (discussed under Impact UTIL-1), sufficient power, including as electricity, will be available to meet future demands. Potential cumulative impacts associated with electricity would be less than significant.

Natural Gas

The City of Burbank receives natural gas from the Southern California Gas Company (SCG), which provides service to most of southern California (SCG 2021). In 2019, SCG's residential customers accounted for approximately 46 percent of SCG's natural gas consumption, while industrial and commercials customers accounted for another 31 percent and 17 percent, respectively. Projects in the cumulative scenario are anticipated to primarily consist of commercial and industrial developments, as residential developments would be implemented under the proposed Project; as such, cumulative projects will introduce a lower demand for natural gas than the proposed Project. Given the extent of SCG's service territory comprising the majority of southern California, sufficient infrastructure is anticipated to be present to accommodate future development under the cumulative scenario, with connections established on a project-by-project basis. In addition, as discussed above for *Electricity*, the City of Burbank is actively expanding its power supply portfolio, including as applicable to natural gas. Therefore, sufficient natural gas infrastructure and energy supply is available to development projects under the cumulative scenario. Potential cumulative impacts associated with natural gas would be less than significant.

Mitigation Measures

No mitigation measures are required.

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5 Other CEQA Considerations

Section 15126 of the CEQA Guidelines requires that EIRs identify significant environmental effects of a project and significant environmental effects of a project that cannot be avoided, which are handled in the individual sections of this EIR. CEQA Guidelines Section 15126 also requires the identification of significant irreversible environmental changes that would result from implementation of a project and growth-inducing impacts of a project, which are identified in this section. Table ES-4 in Executive Summary and Sections 4.1 through 4.12 of this EIR provide a comprehensive identification of the environmental effects of the Housing Element Update, including the level of significance both before and after mitigation.

5.1 Significant Environmental Effects that Cannot be Avoided

Section 15126.2(b) of the CEQA Guidelines requires that an EIR describe any significant impacts that cannot be avoided, even with the implementation of feasible mitigation measures. Implementation of the Housing Element Update would result in the following significant and unavoidable impact:

- **Transportation – Impact TRA-2:** Would the proposed project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?
  - The Housing Element Update would reduce VMT in the three target populations, however it would not reduce VMT more than the required 15 percent.
- **Utilities/Services – Impact UTIL-3:** Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
  - Wastewater generated in the City of Burbank is conveyed to and treated at the Burbank Water Reclamation Plant. Reasonably foreseeable development under the proposed Project would increase wastewater generation commensurate with the increased population. Significant treatment capacity is currently available at the BWRP to treat increased wastewater generated as a result of the Project. However, based on the sewer generation rates that were calculated for the proposed Project, along with constraints within the City's treatment system, potentially significant impacts could result on a project-specific bases with no feasible mitigation at the current plant level. Therefore, impacts would be significant and unavoidable.

5.2 Significant Irreversible Environmental Effects

Section 15126.2(c) of the CEQA Guidelines requires a discussion of any significant irreversible environmental changes that would be caused by a proposed project. Specifically, Section 15126.2(c) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to

similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irreversible commitments of resources should be evaluated to assure that such current consumption is justified.

Generally, a project would result in significant irreversible environmental changes if any of the following would occur:

- The primary and secondary impacts would generally commit future generations to similar uses;
- The project would involve a large commitment of nonrenewable resources;
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The project involves the wasteful use of resources.

Resources that would be consumed as a result of construction and operation of reasonably foreseeable development under the Housing Element Update include water, electricity, natural gas, and fossil fuels. However, as discussed in Section 6, Energy, of the Initial Study (Appendix A); Section 19, Utilities and Services Systems, of the Initial Study; and Section 4.12, Utilities/Service Systems, of this EIR, the amount and rate of consumption of these resources would not result in significant environmental impacts related to the unnecessary, inefficient, or wasteful use of resources.

Construction activities related to reasonably foreseeable development under the Housing Element Update would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline for automobile and construction equipment. However, as discussed in Section 6, Energy, of the Initial Study (Appendix A), use of such resources by construction activities associated with residential development under the Housing Element Update would not be unusual as compared to other construction projects and would not substantially affect the availability of such resources.

With respect to operational activities, compliance with all applicable energy and building codes, as well as mitigation measures, would ensure that natural resources are conserved or recycled to the maximum extent feasible. New development under the Housing Element Update would be subject to the energy conservation requirements of the California Energy Code (Title 24, Part 6 of the California Code of Regulations, California's Energy Efficiency Standards for Residential and Nonresidential Buildings), the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations), and the Burbank Green Building Code (Burbank Municipal Code Title 9, Chapter 1). The California Energy Code provides energy conservation standards for all new and renovated commercial and residential buildings constructed in California. This Code applies to the building envelope, space-conditioning systems, and water-heating and lighting systems of buildings and appliances and provides guidance on construction techniques to maximize energy conservation. Minimum efficiency standards are given for a variety of building elements, including appliances; water and space heating and cooling equipment; and insulation for doors, pipes, walls, and ceilings. The Code emphasizes saving energy at peak periods and seasons and improving the quality of installation of energy efficiency measures. The California Green Building Standards Code sets targets for energy efficiency; water consumption; dual plumbing systems for potable and recyclable water; diversion of construction waste from landfills; and use of environmentally sensitive materials in construction and design, including ecofriendly flooring, carpeting, paint, coatings, thermal insulation, and acoustical wall and ceiling panels. New developments would also be required to comply with the Burbank Green Building Code, which contains mandatory measures for residential and non-residential uses, particularly those related to energy efficiency (i.e., renewable energy, indoor and outdoor water use, and water reuse systems). While consumption of natural resources in the City would increase with implementation of the Housing Element Update due to development and associated population increases, it is also likely that in response to greenhouse gas reduction mandates, new technologies or systems will emerge, or will become more cost-effective or user-friendly, that will further reduce the City's reliance upon nonrenewable natural resources. Therefore, the Housing Element Update would not result in the wasteful or inefficient use of natural resources.

5.3 Growth Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires consideration of the growth inducing impacts of a proposed project. Growth inducing impacts are characteristics of a project that could "foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." According to the CEQA Guidelines, such projects include those that would remove obstacles to population growth (e.g., a major expansion of a wastewater treatment plant). In addition, as set forth in the CEQA Guidelines, increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Generally, a project may result in growth inducing effects if it involves one of the following:

- The removal of a regulatory obstacle to growth (e.g., an annexation or up-zoning), thus indirectly inducing population and/or employment growth; and/or
- Extension of infrastructure (sewer, water, etc.) to an area currently undeveloped and/or lacking adequate infrastructure, thus removing an obstacle to growth

The CEQA Guidelines state that it must not be assumed that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment. Therefore, the Housing Element Update's growth inducing effect is considered a significant environmental impact only if one of the above listed effects results in a significant physical effect in one or more of the issue areas analyzed in Section 4 of this EIR.

Population and Employment

The Housing Element Update would accommodate development of new housing units in already urbanized areas of the City. As discussed in Section 2, Project Description, the estimated growth that was analyzed under the proposed Project is 10,456 new housing units, exceeding the City's Regional Housing Needs Assessment (RHNA) of 8,772 units, which is determined by the Southern California Association of Governments (SCAG) to quantify the need for housing within each jurisdiction based on anticipated growth. New residential units developed under the Housing Element Update could directly increase the population of the City if they would be occupied by people currently residing in other cities or regions.

According to the California Department of Finance (DOF), the City of Burbank has a current population of 103,969 with an average household size of 2.45 (California DOF 2021). Based on the average household size of 2.45, the increase of 10,456 residential units would generate a population increase of approximately 25,617 residents. Therefore, the City's population could increase to 129,586. This population increase would be approximately 12.3 percent higher than SCAG's forecast population of 115,400 persons by 2045. Additionally, SCAG projections indicate an increase in the

City's number of households by 6,700 (16 percent) over the next 25 year for an estimated 48,600 households in 2045.

Burbank's Land Use Element forecasts an estimated city-wide buildout capacity of 61,647 residential units (City of Burbank 2013). With the addition of the 10,456 new units anticipated through this Housing Element update, the City would have 55,525 total residential units, 6,122 lower than Burbank's estimated residential capacity. Adoption and implementation of the Housing Element would not induce growth beyond that already anticipated in the current Land Use Element.

The variation in population forecasts is not considered substantial given it would occur over an extended period (i.e., 2021 through 2029). Additionally, the future housing development facilitated by the proposed Project is intended to be dispersed throughout the community to create managed levels of growth in specific areas and be consistent with the City's RHNA. The City is mostly developed and is supported by existing infrastructure. Therefore, the proposed Project would not induce substantial unplanned population growth in the. New residential development would also increase employment; however, any employment growth would be within regional forecasts and housing would accommodate new employees rather than induce people to move to the region.

Furthermore, the purpose of the Housing Element Update is to address the City's fair share of the regional housing need and specific State statutory requirements. Under the RHNA, SCAG has determined the need for 8,772 units for the City, of which 3,971 must be affordable to low and very low-income households (SCAG 2020b). In addition, State law now implicitly requires a sufficient buffer in the Inventory of Sites to ensure sufficient affordable housing unit availability during the eight-year planning cycle for the Housing Element. For these reasons, the City's Inventory of Sites will target identifying a capacity of up to 10,456 units, of which approximately 4,425 will be accommodated on sites that meet affordable housing criteria. Therefore, the proposed Project would align with SCAG's RHNA determination and the State statutory requirements, which are established based on the City's housing requirements.

Community-Serving Infrastructure

The City is primarily urbanized and contains developed communities with existing serving infrastructure, including roads, water supply, sewers, and storm drains. The City's existing roadway network would largely accommodate reasonably foreseeable development under the Housing Element Update. In the event that roadway upgrades are required to serve specific future development, such upgrades would likely be minor (e.g., lane reconfiguration or restriping) and would not include the construction of new roads. Although new residential development under the Housing Element Update may also require minor utility upgrades or expansion (e.g., water line connections, site drainage design) on a project-by-project basis, such upgrades would be intended to accommodate the growth planned under the Housing Element Update and would not require extensions into undeveloped and sensitive areas. In addition, the Housing Element Update is intended to concentrate new housing development in areas that are already served by infrastructure in order to ensure that infrastructure is utilized efficiently and in a manner that reduces the environmental impacts of development. Therefore, the proposed Project would not result in the extension of infrastructure to undeveloped areas which would remove an obstacle to growth.

As discussed in Section 4.12, Utilities/Service Systems, the analysis found that existing utility systems for water, electric power, natural gas, and telecommunications facilities in the City have sufficient capacity to serve reasonably foreseeable development under the proposed Project; therefore, potential infrastructure improvements associated with these utilities and service systems would not contribute to growth in the City. Regarding wastewater treatment capacity, the analysis found that development under the proposed Project would increase wastewater generation proportional to the projected increased population. Based on the sewer generation rates that were calculated for the proposed Project, along with constraints within the City’s wastewater treatment system that could result from build out of development projects under the Project, potential impacts associated with wastewater generation are significant and unavoidable. Nonetheless, the City’s plans and improvements to the sewer conveyance and treatment system will be based on the projected population, and therefore, would not result in unplanned population growth.

Because the City is urbanized, housing development would generally not impact sensitive environmental resources such as agriculture, biological resources, and mineral resources. In addition, the Housing Element Update would concentrate housing development along major transit corridors and areas with access to transit, jobs, services, and open spaces, which would generally minimize impacts as new development would be built to current standards and would improve some existing conditions such as stormwater runoff, surface water quality, and protection against substantial seismic damage. The Housing Element Update would not result in unplanned growth but would rather ensure that projected growth is accommodated. The Housing Element Update is anticipated to satisfy the anticipated population growth in the region in an efficient manner consistent with State, regional and local policies and with the projected growth forecast for the Burbank region. To that end, the Housing Element Update would aim to efficiently utilize existing infrastructure, reduce regional congestion, and improve air quality.

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6 Alternatives

As required by Section 15126.6 of the *CEQA Guidelines*, this EIR examines a range of reasonable alternatives to the proposed Project that would attain most of the basic Project objectives (stated in Section 2, *Project Description*, of this EIR) but would avoid or substantially lessen the significant adverse impacts.

As discussed in Section 2, *Project Description*, the objectives for the proposed Project, are as follows:

1. Meet the City's fair share of the regional housing need to accommodate projected population growth within the City and region
2. Conserve and enhance the quality of existing housing and neighborhoods
3. Provide housing sites that accommodate a range of housing types to meet the diverse needs of existing and future residents
4. Continue to facilitate the development of housing affordable to all economic segments of the community
5. Focus on removing governmental constraints to the maintenance, improvement, and development of housing
6. Promote non-discrimination and ensure fair and equal housing opportunities for all persons

Included in this analysis are two alternatives, including the CEQA-required "no project" alternative, that involve changes to the Project that may reduce the Project-related environmental impacts as identified in this EIR. Alternatives have been developed to provide a reasonable range of options to consider that would help decision makers and the public understand the general implications of revising or eliminating certain components of the proposed Project.

The following alternatives are evaluated in this EIR:

- Alternative 1: No Project
- Alternative 2: City Build-Out

Detailed descriptions of the alternatives are included in the impact analysis for each alternative. The potential environmental impacts of each alternative are analyzed in Sections 6.1 and 6.2.

6.1 Alternative 1: No Project Alternative

6.1.1 Description

The "No Project" Alternative involves continued implementation of the existing 2013-2021 Housing Element and a continued growth rate predicted by SCAG to yield 3,591 units by 2029. The No Project Alternative assumes that the City's existing plan and policies would continue to accommodate development in accordance with existing land use designations. Ultimately, this alternative would not fulfill the State requirements regarding updates to the Housing Element and SCAG's RHNA allocation.

Due to the limitation placed on development in the city under existing plans and policies, the No Project Alternative would not be consistent with Objective 1, which aims to accommodate employment, housing, and population growth projections forecasted through the planning horizon year of 2029 and Objective 4, which aims to facilitate affordable housing options throughout the city.

6.1.2 Impact Analysis

a. Air Quality

Under the No Project Alternative, fewer total residential units would be developed, which would result in a smaller anticipated population increase. This alternative would also be consistent with the AQMP the same as the Project. Construction and operational air quality impacts would be less than those of the Project, as less development would occur. The construction of 3,591 units would likely still cause potentially significant construction air quality impacts, therefore Mitigation Measure AQ-1 would still be required. Additionally, although the operational impacts would be less than those of the Project, the impacts would likely still be potentially significant due to the number of units that would be constructed. Therefore, Mitigation Measure AQ-2 would still be required to reduce impacts to less than significant. Overall, air quality impacts under the No Project Alternative would be less than those under the Project.

b. Biological Resources

Development under the No Project Alternative would be less than that under the Project. Impacts could still occur to nesting birds during construction of the anticipated residential units; therefore the Mitigation Measure BIO-1 would still be required. Impacts would be less than what would occur under the Project since fewer nests would be potentially impacted by development.

c. Cultural Resources/Tribal Cultural Resources

As described in Section 4.3, *Cultural Resources/Tribal Cultural Resources*, there are various buildings within the city that may qualify as historic structures. Under the No Project Alternative there would be significantly less development than under the Project, however it is still possible that historic structures could be impacted by this development, therefore Mitigation Measure CUL-1 would still be required. Since less development would occur under the alternative, fewer historic structures would be impacted than under the Project. Therefore, impacts would be less than the Project and impacts would remain less than significant with mitigation incorporated.

d. Geology/Soils

While the No Project Alternative would result in less development than the Project, the development that would occur could still impact previously unidentified paleontological resources. This is because development could include excavations at depths beyond five feet below the surface. Therefore, Mitigation Measures GEO-1 and GEO-2 would still be required to reduce impacts to a less than significant level. However, it is likely that due to the reduced development under this alternative that fewer unidentified paleontological resources would be impacted than under the Project making the impact less severe than the Project.

e. Greenhouse Gas Emissions

Under the No Project Alternative, fewer total residential units would be developed, which would result in a smaller anticipated population increase. This alternative would still be consistent with all applicable plans and policies. This alternative would result in lower GHG emissions than the Project as it would result in less development. Therefore, the impact under this alternative would be less than those of the Project.

f. Hazards and Hazardous Materials

The No Project Alternative would result in less development than the Project, however the development allowed under this alternative could still occur within 0.25 mile of a school and could result in the release of hazardous materials. Just as with the Project, compliance with regional and federal regulations and compliance with the Safety Element policies would minimize the risk of releases and exposure to these materials. Impacts would remain less than significant.

As discussed in Section 4.6, *Hazards and Hazardous Materials,* there are multiple locations within the city that are designated as hazardous materials sites. While the No Project Alternative would result in less development overall, it could still occur on these sites. Therefore, Mitigation Measure HAZ-1 would still be required to ensure the potential impacts would be less than significant. Due to the reduced development under this alternative, it is likely that fewer hazardous materials sites would undergo development than under the Project. Therefore, while the mitigation is still required, the impact would be less severe than under the Project.

g. Noise

The No Project Alternative would result in less development than the Project, however this development would still generate construction and operational noise. While construction under this alternative would also comply with the allowed daytime construction hours regulated by the Burbank Municipal Code (BMC), larger developments could still generate construction noise in excess of applicable noise limits. Mitigation Measures NOI-1a through NOI-1f would reduce construction noise levels associated with smaller housing development below the eight-hour 80 dBA L_{eq} daytime residential noise limit per FTA guidelines and Mitigation Measure NOI-1g would reduce construction noise impacts whenever a development project is located within 500 feet of a noise-sensitive land use. Therefore, while the mitigation is still required, the impact would be less severe than under the Project.

Development under the No Project Alternative could also generate vibration exceeding thresholds for building damage, particularly during construction. Although development would occur to a lesser degree than the Project, implementation of Mitigation Measure NOI-3 would still substantially reduce/control construction such that vibration levels would not exceed the vibration criteria for building damage. Impacts would remain less than significant with mitigation. Furthermore, as with the Project, it is not anticipated that operation of development under the No Project Alternative would involve activities that would result in substantial vibration levels, such as use of heavy equipment and impacts would remain less than significant.

Although operational noise associated with the No Project Alternative would still be regulated by respective standards in the BMC, such noise sources would occur to a lesser degree than the Project. Nonetheless, on-site operational noise would remain typical of the urban environment and off-site traffic noise associated with development would not result in a perceptible increase in noise levels. Furthermore, while the No Project Alternative would subject less development to overhead flight patterns from airport, all development would nonetheless be required to comply with State and local standards to reduce interior noise to acceptable levels. Impacts would remain less than significant. Overall noise impacts under the No Project Alternative would be slightly less than the Project.

h. Population/Housing

The No Project Alternative would result in a smaller number of residential units and therefore would result in a smaller population increase than the Project. Using the DOF persons per household ratio of 2.45, this would result in an estimated population increase of 8,798 people. This would bring the population of the city to 112,767. This population increase would be 2,633 less than SCAG's forecast population of 115,400 persons by 2045. This growth would still be within the planned population increase in the city as outlined in the SCAG RTP/SCS. Impacts would be less than those of the Project and would be less than significant.

i. Public Services

The No Project Alternative would result in fewer residential units than the Project. Therefore, the increase in demand on public services, including police protection, fire protection, schools, parks, and libraries would be less than that of the Project. Impacts would be less than those of the Project and would remain less than significant.

j. Recreation

The No Project Alternative would result in fewer residences which in turn would result in less of an increase in demand for parks than the Project. Any residences built under the No Project Alternative would still be required to pay the in-lieu fee which would help fund park maintenance. Impacts would be less than those of the Project as there would be less of a demand increase on recreational facilities and the impact would remain less than significant.

k. Transportation

Under the No Project Alternative, fewer residential units would be developed and the increase in traffic would be less than that of the Project. However, the VMT for the City would not be reduced by the 15 percent required for each of the three service populations. This is because there would not be sufficient population added to the area surrounding the transit corridors and employment areas to reduce the driving distances. Burbank would still be considered a more "jobs rich" community and people would drive from further outside the city to their jobs. Therefore, impacts to transportation would be greater than under the Project.

l. Utilities/Service Systems

Under the No Project Alternative, fewer residential units would be constructed and therefore the demand on utilities would be less than the Project. This includes a reduction in water supply requirements, wastewater generation, electricity use, solid waste generation, and telecommunications. Impacts would be less than significant.

6.2 Alternative 2: City Build-Out

6.2.1 Description

This alternative would involve the buildout of 18,600 units, which would bring the City residential units up to the limit established by Measure One. This would be 8,144 units over the proposed update to the Housing Element. These units would be placed in the Medium Density, High Density and Various Commercial zone districts. No units would be proposed in the Low Density Residential district. Table 6-1 shows the distribution of units throughout these zone districts and the conformity to the maximum allowed under Measure One.

Table 6-1 Alternative 2 – Measure One Unit Distribution and Conformity

	Alternative 2 Proposed Units	Measure One Maximum Build-Out
Low Density Residential	0	22,225
Medium Density Residential	2,000	11,502
High Density Residential	8,000	15,910
Various Commercial	8,600	12,010
Total	18,600	61,647

Measure One Build-Out is from Table LU-3 on page 3-26 of the Burbank2035 General Plan

This alternative would increase density throughout the city and in order to accommodate this increase in density, housing would be located within the commercial corridors.

Alternative 2 would not fulfill Objective 2 as it would change the character of existing neighborhoods by increasing the density.

6.2.2 Impact Analysis

a. Air Quality

Under Alternative 2, more total residential units would be developed, which would result in a larger anticipated population increase. according to the California Department of Finance the city has an estimated 2.45 persons per household therefore the increase of 18,600 units would increase the population by 25,722. This is beyond the growth estimates put out by SCAG and therefore this alternative would not be consistent with the AQMP.

Construction and operational air quality impacts would be greater than those of the Project, as more development would occur. The construction of 18,600 units would cause potentially significant construction air quality impacts, therefore Mitigation Measure AQ-1 would still be required. Additionally, operational impacts would likely still be potentially significant due to the number of units that would be constructed. Therefore, Mitigation Measure AQ-2 would still be required. Overall, air quality impacts under the City Build-Out Alternative would be greater than those under the Project.

b. Biological Resources

Development under Alternative 2 would include 78 percent more units than under the Project. Impacts would occur to nesting birds during construction of the anticipated residential units, therefore the Mitigation Measure BIO-1 would still be required. Impacts would be greater than what would occur under the Project; however, they would remain less than significant with mitigation incorporated.

c. Cultural Resources/Tribal Cultural Resources

As described in Section 4.3, *Cultural Resources/Tribal Cultural Resources*, there are various buildings within the city that may qualify as historic structures. Under the City Build-Out Alternative there would be 78 percent more development than under the Project, therefore it is more likely that historic structures could be impacted by this development, therefore Mitigation Measure CUL-1 would still be required. Since more development would occur under the alternative, it is likely that more historic structures would be impacted than under the Project. Therefore, impacts would be greater than the Project, but impacts would remain less than significant with mitigation incorporated.

d. Geology/Soils

Alternative 2 would result in more development than the Project, and the development that would occur could still impact previously unidentified paleontological resources. This is because development could include excavations at depths beyond five feet below the surface. Therefore, Mitigation Measures GEO-1 and GEO-2 would be required to reduce impacts to a less than significant level. Due to the increased amount of development, it is likely that more previously unidentified paleontological resources would be encountered making the impact more severe than under the Project while still being less than significant with mitigation.

e. Greenhouse Gas Emissions

Under Alternative 2, 78 percent more units would be constructed. Development under this alternative would be consistent with all applicable plans and policies. GHG emissions would specifically arise from direct sources such as motor vehicles, natural gas consumption, solid waste handling/treatment, and indirect sources such as electricity generation. The construction of the units would increase GHG emissions for all contributing factors. Overall, GHG emission impacts under the City Build-Out Alternative would be greater than the Project.

f. Hazards and Hazardous Materials

Alternative 2 would result in 78 percent more development than the Project, which would increase the likelihood that this development would occur within 0.25 mile of a school and could result in the release of hazardous materials. However, just as with the Project, compliance with regional and federal regulations and compliance with the Safety Element policies would minimize the risk of releases and exposure to these materials. Impacts would remain less than significant.

As discussed in Section 4.6, *Hazards and Hazardous Materials,* there are multiple locations within the city that are designated as hazardous materials sites. It is likely that development would occur on one of these sites due to the amount of development that would occur under this alternative. Therefore, Mitigation Measure HAZ-1 would still be required to ensure the potential impacts would be less than significant. Additionally, the impacts would be more severe due to the increased likelihood of development although the impact would remain less than significant with mitigation incorporated.

g. Noise

Alternative 2 would result in more development than the Project. As with the Project, construction under this alternative would comply with the allowed daytime construction hours regulated by the BMC; however, larger developments could still generate construction noise in excess of applicable noise limits. Mitigation Measures NOI-1a through NOI-1f would reduce construction noise levels associated with smaller housing development below the eight-hour 80 dBA L_{eq} daytime residential noise limit per FTA guidelines and Mitigation Measure NOI-1g would reduce construction noise impacts whenever a development project is located within 500 feet of a noise-sensitive land use

However, due to the increased amount of development under this alterative, impacts would be greater than the Project, but would remain less than significant with mitigation incorporated.

Development under Alternative 2 could also generate vibration exceeding thresholds for building damage, particularly during construction. Nonetheless, implementation of Mitigation Measure NOI-3 would still substantially reduce/control construction such that vibration levels would not exceed the vibration criteria for building damage. While this alternative would generate more instances of construction vibration, impacts would remain less than significant with mitigation. Furthermore, as with the Project, it is not anticipated that operation of development under the City Build-Out Alternative would involve activities that would result in substantial vibration levels, such as use of heavy equipment and impacts would remain less than significant.

Although operational noise associated with the City Build-Out Alternative would still be regulated by respective standards in the BMC, such noise sources would occur to a greater degree than the Project. Nonetheless, on-site operational noise would remain typical of the urban environment. Furthermore, while Alternative 2 would subject more development to overhead flight patterns from airports, all development would nonetheless be required to comply with State and local standards to reduce interior noise to acceptable levels. Impacts would remain less than significant. Overall noise impacts under the City Build-Out Alternative would be slightly greater than the Project.

h. Population/Housing

Alternative 2 would result in 78 percent more residential units than the Project. Using the DOF persons per household ratio of 2.45, this would result in an estimated population increase of 19,953 people beyond the Project for a total increase of 45,560 people. This would bring the population of the city to 150,529. This population increase would be approximately 30 percent higher than SCAG's forecast population of 115,400 persons by 2045. Although this alternative would facilitate development beyond RTP/SCS forecasts, the next RTP/SCS update would reflect new forecasts for each jurisdiction in the region based on their RHNA allocation. This increase would be in line with the City's Measure One predictions for residential units within the city. Therefore, while the alternative would increase the population beyond the Project and beyond the SCAG RTP/SCS forecast, it would still be within the bounds of the planning efforts of the City. Impacts would be greater than those of the Project but would remain less than significant.

i. Public Services

Alternative 2 would result in more residential units than the Project. Therefore, the increase in demand on public services, including police protection, fire protection, schools, parks, and libraries would be greater than that of the Project. It is likely that this increase in demand would require the construction of new or expanded facilities for police, fire, schools, parks, and libraries. Any new facilities would be required to undergo CEQA review prior to construction and projects would be required to pay any applicable development impact and permit fees. Nevertheless, impacts from new public services facilities would be greater than those of the Project and would be significant and unavoidable.

j. Recreation

Alternative 2 would result in more residences which in turn would result in a greater increase in demand for parks than the Project. Any residences built under the No Project Alternative would be required to pay the development impact and permit fee which would help fund park maintenance. Impacts would be greater than those of the Project as there would be a greater demand on recreational facilities however with the payment of fees, the impact would remain less than significant.

k. Transportation

Under Alternative 2, more residential units would be developed and the increase in traffic would be greater than that of the Project. However, as shown in Table 6-2, the VMT for the City would not be reduced by the 15 percent required for two of the three service populations. This is because there would not be sufficient population added to the area surrounding the transit corridors and employment areas to reduce the driving distances. However, the reduction in VMT over the SCAG region would be greater than that of the proposed Project. Therefore, impacts to transportation would be less than under the Project.

Table 6-2 Alternative 2 – VMT Generation

	SCAG 2021 Baseline	2029 Future with Alternative	% Difference (SCAG Baseline to 2029 Future)
VMT per Service Population	34.5	31.7	-8%
Residential VMT per Capita	14.9	8.7	-42%
Employment VMT per Employee	18.1	16.5	-9%

Source: Fehr & Peers, 2021

l. Utilities/Service Systems

Under Alternative 2, 78 percent more residential units would be constructed and therefore the demand on utilities would be greater than the Project. Developers are responsible for funding any infrastructure improvements that are required to mitigate project impacts. Consistent with applicable State law, the City's development fees would ensure that the developers pay the cost attributable to the increased demand for the affected public facilities reasonably related to the development project in order to refurbish the existing facilities to maintain the existing level of service and achieve an adopted level of service that is consistent with the City's General Plan (California Government Code Section 66001(g)).

Reasonably foreseeable development under Alternative 2 would require new connections for water supply, wastewater conveyance and sufficient capacity for wastewater treatment, electricity use, solid waste disposal, and telecommunications. As stated above, the developers would be required to pay the cost attributable to the increased demand. However, it is likely that new water, wastewater, electricity, solid waste and telecommunications facilities would have to be constructed to serve the expanded population. Therefore, impacts would be significant and unavoidable.

6.3 Alternatives Considered but Rejected

CEQA Guidelines Section 15126.6(c) requires that the "EIR should identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination." Other alternatives considered, and the reasons they were rejected, include the following scenarios.

Relocating housing units to the undeveloped mountain area in the northeastern portion of the city was considered as an alternative. This alternative would have placed residences in the high fire area which would be in conflict with the Safety Element of the Burbank2035 General Plan. Therefore, this scenario was rejected from further consideration.

Increasing density in the single family residential neighborhoods and away from freeway corridors was considered. This would not reduce any significant and unavoidable impacts of the proposed Project as it would increase VMT. Additionally, this would require revisions to Land Use Policy 8.1 of the City's General Plan, which aims to limit development in the Low Density Residential land use designation to detached single-family homes, with the exception of areas with R-2 zoning where development is limited to single-family homes and duplexes.

The Project includes a 15 percent buffer to the RHNA so including a reduced RHNA buffer was considered as an alternative as it could reduce significant VMT impacts. However, in order to comply with State requirements, a sufficient buffer to the RHNA is needed therefore this alternative would not be feasible and was rejected from further consideration.

6.4 Environmentally Superior Alternative

Table 6-3 indicates whether each alternative's environmental impact is greater than, less than, or similar to that of the proposed Project for each of the issue areas studied. Based on the alternatives analysis provided above, Alternative 1 would be the environmentally superior alternative.

Alternative 1 (*No Project)* assumes continued implementation of the existing 2013-2021 Housing Element and a continued growth rate predicted by SCAG to yield 3,591 units by 2029. Alternative 1 also assumes that the City's existing plan and policies would continue to accommodate development in accordance with existing land use designations. This alternative would result in less impacts to air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, noise, population and housing, public services, recreation, and utilities and service systems due to the decrease in residential units developed. However, impacts relating to transportation and traffic would be greater than under the Project as the VMT for the City would not be reduced by the 15 percent required for each of the three service populations because there would not be sufficient population added to the area surrounding the transit corridors and employment areas to reduce driving distances. Furthermore, Alternative 1 would not fulfill Project Objective 1 because the continued implementation of the existing 2013-2021 Housing Element would result in the development of fewer residential units and therefore, would be unable to accommodate employment, housing, and population growth projections forecasted through the planning horizon year of 2029. In addition, Alternative 1 would not fulfill Project Objective 4 because continued implementation of the existing 2013-2021 Housing Element would limit additional affordable housing options throughout the City.

Alternative 2 (*City Build-Out)* would involve the buildout of 18,600 units, which would result in 8,144 additional units and bring the City residential units up to the limit established by Measure One. This alternative would increase density throughout the City by accommodating the additional units in the Medium Density, High Density and Various Commercial zone districts. Alternative 2 would result in less impacts to transportation and traffic as the reduction in VMT over the SCAG region would be greater than that of the proposed Project. However, impacts relating to air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, noise, population and housing, public services, and recreation would be higher than under the Project due to the 78 percent increase in residential units developed. In addition, the increase in residential units would require new connections for water supply, wastewater conveyance and sufficient capacity for wastewater treatment, electricity use, solid waste disposal, and telecommunications and would likely result in the construction of new water, wastewater, electricity, solid waste and telecommunications facilities to serve the expanded population. Therefore, impacts relating to utilities and service systems under this alternative would be significant and unavoidable, resulting in greater impacts than under the Project. Furthermore, Alternative 2 would not fulfill Objective 2 as it would change the character of existing neighborhoods by increasing the density.

Table 6-3 Impact Comparison of Alternatives

Issue	Proposed Project Impact Classification	Alternative 1: No Project	Alternative 2: City Buildout
Air Quality	Less than significant with mitigation incorporated	+	-
Biological Resources	Less than significant with mitigation incorporated	+	-
Cultural Resources/Tribal Cultural Resources	Less than significant with mitigation incorporated	+	-
Geology/Soils	Less than significant with mitigation incorporated	+	-
Greenhouse Gas Emissions	Less than significant	+	-
Hazards and Hazardous Materials	Less than significant with mitigation incorporated	+	-
Noise	Less than significant with mitigation incorporated	+	-
Population/Housing	Less than significant	+	-
Public Services	Less than significant	+	-
Recreation	Less than significant	+	-
Transportation	Significant and unavoidable	-	+
Utilities/Service Systems	Less than significant	+	-

+ Superior to the proposed Project (reduced level of impact)

- Inferior to the proposed Project (increased level of impact)

= Similar level of impact to the proposed Project

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7.2 List of Preparers

This EIR was prepared by the City of Burbank, with the assistance of Rincon Consultants, Inc. Consultant staff involved in the preparation of the EIR are listed below.

RINCON CONSULTANTS, INC.

Joe Power, Principal
Deanna Hansen, Principal
Susanne Huerta, AICP, Project Manager
Vanesa Villanueva, Assistant Project Manager
Brenna Vredeveld, Supervisor Biologist
Andy Pulcheon, Principal Archeologist
Lexi Journey, Senior Environmental Planer
Aubrey Mescher, Senior Environmental Planner
Bill Vosti, Senior Environmental Planner
Heather Dubois, Senior Environmental Planner
Amanda Harvey, Senior Archaeologist
John Sisser, Environmental Planner
Emily Marino, Environmental Planner
Ryan Glenn, Archaeologist
Mimi McNamara, Environmental Planner
Sarah Toback, Biologist
Jorge Mendieta, Archaeologist
Jason Montague, Environmental Planner
Megan Knight, Environmental Planner
Shannon McAlpine, Environmental Planner
Jacob Cisneros, Environmental Planner
Tess Hooper, Biologist
Jenna Shaw, Environmental Planner
Camila Bobroff, Environmental Planner

Destiny Timms, Environmental Planner
Sarah Howland, Environmental Planner
Hannah Haas, Archaeologist

FEHR & PEERS

John Muggridge, Principal
Drew Heckathorn, Senior Transportation Planner

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Appendix A

Notice of Preparation - Scoping Comments

Notice of Preparation

To: Public Agencies and Other Interested Parties

From: City of Burbank
Community Development Department
Planning Division
150 North Third Street
Burbank, California 91502

Subject: Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting

Project Title: Burbank Housing Element Update and Associated General Plan Updates

The City of Burbank will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Burbank Housing Element Update and Associated General Plan Updates (hereafter referred to as "Housing Element Update" or "proposed Project"), which proposes to update the Housing Element for the 2021-2029 planning period, along with minor updates to the Safety and Mobility Elements, and incorporate environmental justice goals, policies and objectives to the City of Burbank's 2035 General Plan. The City requests input from affected public agencies and interested members of the public as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the Project.

The Project description and location are described in the attached materials. The City expects that the EIR will include analyses for the following issues that are considered to have potential for significant impacts on the environment in association with the Project:

Air Quality

Cultural Resources

Geology and Soils

Greenhouse Gas Emissions

Hazards and Hazardous Materials

Land Use and Planning

Noise

Population and Housing

Public Services

Recreation

Transportation

Tribal Cultural Resources

Utilities/Service Systems

Issues that have been determined not to have a significant impact, or any impact, include Aesthetics, Agriculture and Forestry Resources, Biological Resources, Energy, Hydrology and Water Quality, Mineral Resources, and Wildfire.

Purpose of the Scoping Meeting: The purpose of the scoping meeting is to present the proposed Project in a public setting and provide an opportunity for a full airing of the environmental issues that are important to the community. The meeting will include a presentation of the proposal and the environmental issues to be analyzed in the Draft EIR will be described. Following the presentation, interested agencies, organizations, and members of the public will be encouraged to present views concerning what environmental issues should be included in the Draft EIR. The oral and written comments made during the scoping meeting will provide an inventory of potential environmental effects of the Project to be addressed by the Draft EIR.

30-Day Comment Period: The City invites all interested members of the public to attend the public scoping meeting. The City also invites written comments on issues related to potential environmental impacts during a 30-day comment period, which starts on February 22, 2021 and will conclude on March 23, 2021. Due to the time limits mandated by State law, your response must be sent at the earliest possible time but not later than 30 days after receipt of this notice, and no later than **5:00 PM** on **March 23, 2021**. Please send written/typed comments (including a name, telephone number, and contact information) to the following:

City of Burbank, Community Development Department
Attn: Lisa Frank, Senior Planner
150 North Third Street
Burbank, California 91502

You may also email your response to lfrank@burbankca.gov. Please provide the name of a contact person at your agency.

For more information about the Housing Element Update and Associated General Plan Updates, please visit: https://www.burbankhousingelement.com/

A Community Meeting/EIR Public Scoping Meeting will be held on February 27, 2021 from 11:00 A.M. to 12:30 P.M. The meeting will be conducted online via zoom through the following link: https://burbankca.zoom.us/j/99610663018 and will be streamed live through the City of Burbank YouTube channel.

All interested parties are invited to attend the public scoping meeting to assist in identifying issues to be addressed in the EIR. A presentation will begin at 11:00 A.M., then public comments for the EIR will be received and attendees will have an opportunity to provide input to the consultants preparing the EIR.

Date: February 22, 2021 Signature: ______________________

Lisa Frank
Title: Senior Planner
Telephone: (818) 238-5250

Burbank Housing Element Update Project Description

The Burbank Housing Element Update and Associated General Plan Updates involves an update to the Housing Element for the 2021-2029 planning period, along with minor updates to the Safety and Mobility Elements, and incorporate environmental justice goals, policies and objectives to the City of Burbank's 2035 General Plan. The Project would apply to the entire geographic area located within the boundaries of the City of Burbank, which encompasses 17.1 square miles. Figure 1 and Figure 2, below, illustrate the location of the Project in a regional and local context. The proposed Housing Element Update establishes programs, policies and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community, provides evidence of the City's ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG), and identifies any rezoning program needed to reach the required housing capacity. The Project also includes necessary updates to the Safety Element triggered under State law by an update to the Housing Element, and updates to the Mobility Element to incorporate VMT (vehicle miles traveled) metrics.

The Housing Element Update will provide a framework for introducing new housing at all levels of affordability that is within access to transit, Downtown jobs, services, and open spaces. These units may occur anywhere in the City where residential uses are permitted, as well as in areas that may be rezoned in the future to allow for multi-family residential and mixed use of adequate density. Through its identification of sites for future development and implementing housing programs, the updated Housing Element will lay the foundation for achievement of the City's fair share housing needs for approximately 8,800 additional units.

The purpose of the Safety Element Update is to ensure consistency with the Housing Element Update and to comply with recent State legislation and guidelines (including Assembly Bill 162, Senate Bill 1241, Senate Bill 99, Assembly Bill 747, Senate Bill 1035 and Senate Bill 379). Technical amendments will be made to the Safety Element to achieve compliance with State, regional, and local policies and guidelines. The technical amendments will incorporate data and maps, address vulnerability to climate change; incorporate policies and programs from the City's Hazard Mitigation Plan and the Greenhouse Gas Reduction Plan, as well as partial or full integration of other City documents and programs (including but not limited to: Ready Burbank and the Emergency Survival Program). The Safety Element amendments will be submitted to the California Geological Survey, California Office of Emergency Services, California State Board of Forestry and Fire Protection, and Federal Emergency Management Agency for review.

Senate Bill 1000 (SB 1000) states that revisions or adoption of two or more elements of a general plan on or after January 1, 2018 trigger a requirement to "adopt or review the Environmental Justice Element, or the environmental justice goals, policies, and objectives in other elements." Environmental justice goals, policies, and objectives must aim to reduce health risks to disadvantaged communities (DACs), promote civil engagement, and prioritize the needs of these communities. There are several designated DACs identified in central, northwest, and southeast Burbank. These seven census tracts have overall scores that meet or exceed the minimum criteria for DAC designation based on pollution burden and population characteristics. As mandated under SB 1000, the Safety Element update will consider strategies to reduce pollution exposure, promote public facilities, promote food access, promote safe and sanitary homes, promote physical activity, reduce unique or compounded health risks, promote civic engagement, and prioritize the needs of these disadvantaged communities.

Figure 1 Regional Location

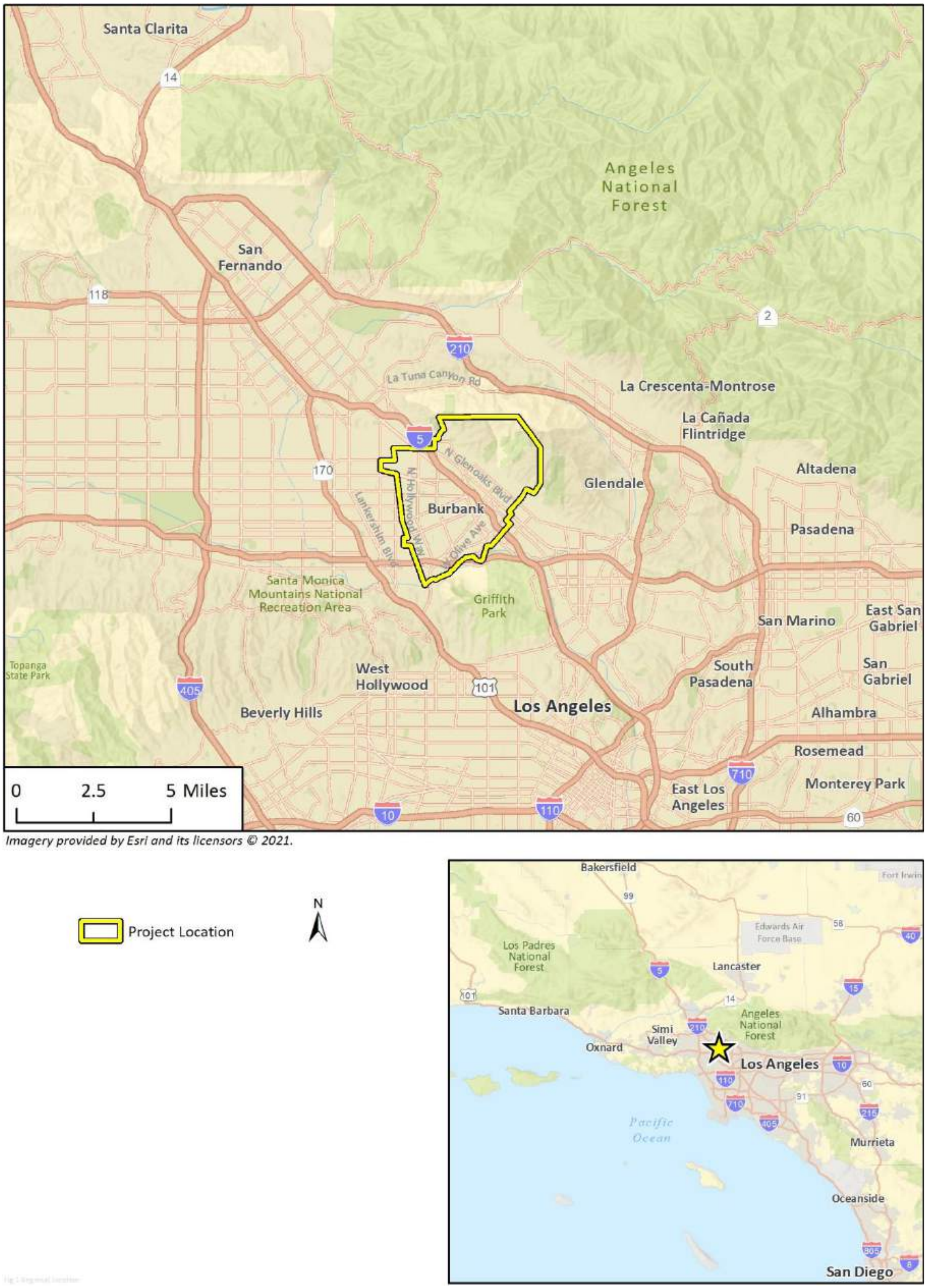

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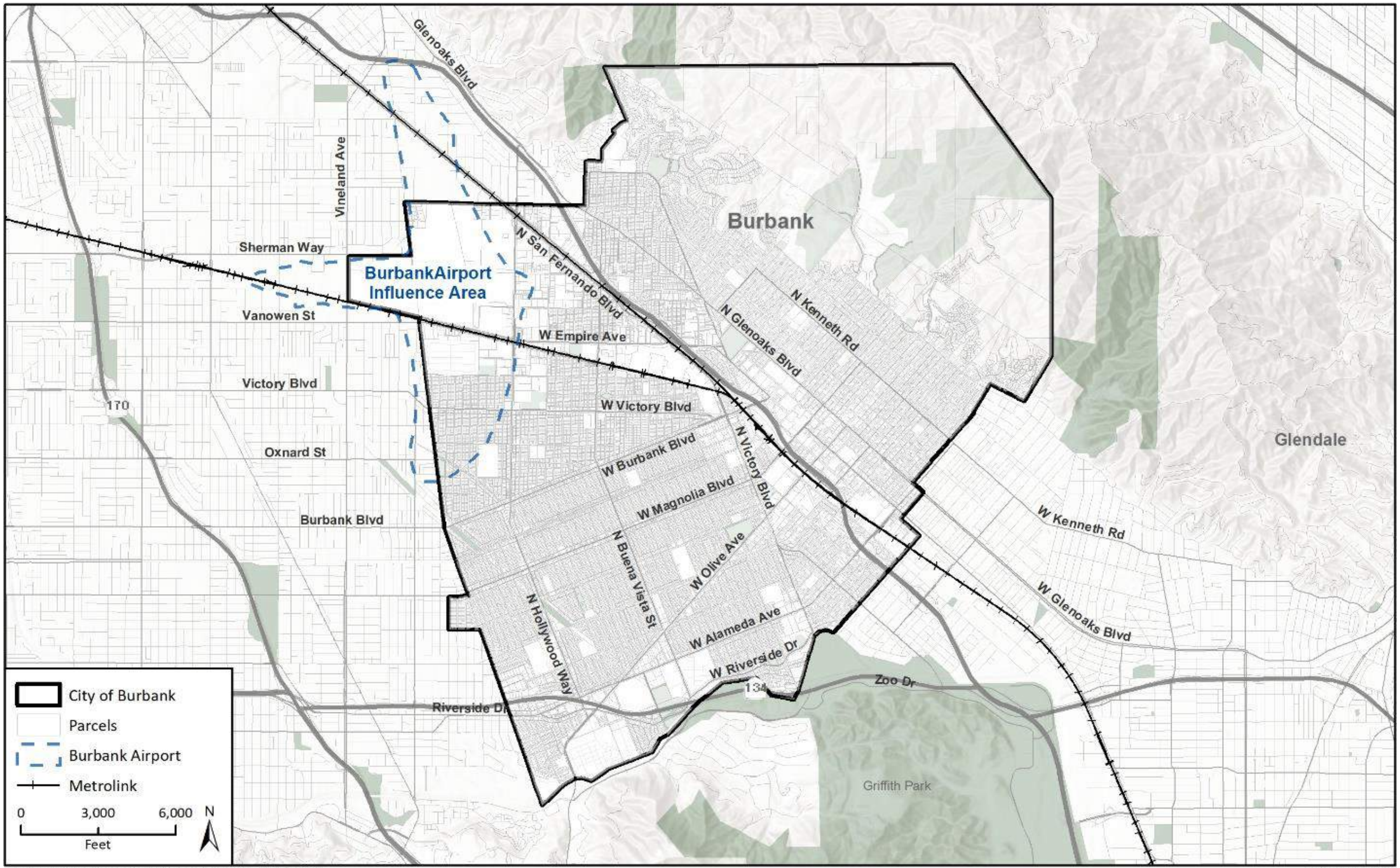
Figure 1 Project Location



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Notice of Preparation

To: Public Agencies and Other Interested Parties

From: City of Burbank
Community Development Department
Planning Division
150 North Third Street
Burbank, California 91502

Subject: Notice of Preparation of a Draft Environmental Impact Report and Notice of Public Scoping Meeting

Project Title: Burbank Housing Element Update and Associated General Plan Updates

The City of Burbank will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for the Burbank Housing Element Update and Associated General Plan Updates (hereafter referred to as "Housing Element Update" or "proposed Project"), which proposes to update the Housing Element for the 2021-2029 planning period, along with minor updates to the Safety and Mobility Elements, and incorporate environmental justice goals, policies and objectives into the City of Burbank's *Burbank2035* General Plan. The City requests input from affected public agencies and interested members of the public as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the Project.

The Project description and location are described in the attached materials. The City expects that the EIR will include analyses for the following issues that are considered to have potential for significant impacts on the environment in association with the Project:

Air Quality
Cultural Resources
Geology and Soils
Greenhouse Gas Emissions
Hazards and Hazardous Materials
Land Use and Planning
Noise
Population and Housing
Public Services
Recreation
Transportation
Tribal Cultural Resources
Utilities/Service Systems

Issues that have been determined not to have a significant impact, or any impact, include Aesthetics, Agriculture and Forestry Resources, Biological Resources, Energy, Hydrology and Water Quality, Mineral Resources, and Wildfire.

Purpose of the Scoping Meeting: The purpose of the scoping meeting is to present the proposed Project in a public setting and provide an opportunity for a full airing of the environmental issues that are important to the community. The meeting will include a presentation of the proposal and the environmental issues to be analyzed in the Draft EIR will be described. Following the presentation, interested agencies, organizations, and members of the public will be encouraged to present views concerning what environmental issues should be included in the Draft EIR. The oral and written comments made during the scoping meeting will provide an inventory of potential environmental effects of the Project to be addressed by the Draft EIR.

30-Day Comment Period: This is a recirculation of the original NOP which stated that the EIR will analyze the addition of 8,800 units under the Regional Housing Needs Assessment (RHNA) that was conducted for the Housing Element Update. However, the EIR will analyze 10,088 units to account for a 15 percent buffer for the RHNA. The City invites all interested members of the public to attend the public scoping meeting. The City also invites written comments on issues related to potential environmental impacts during the extended 30-day comment period, which started on February 22, 2021 and will conclude on April 15, 2021. Due to the time limits mandated by State law, your response must be sent at the earliest possible time but not later than 30 days after receipt of this notice, and no later than **5:00 PM** on **April 15, 2021**. Please send written/typed comments (including a name, telephone number, and contact information) to the following:

City of Burbank, Community Development Department
Attn: Lisa Frank, Senior Planner
150 North Third Street
Burbank, California 91502

You may also email your response to lfrank@burbankca.gov. Please provide the name of a contact person at your agency.

For more information about the Housing Element Update and Associated General Plan Updates, please visit: https://www.burbankhousingelement.com/

An EIR Public Scoping Meeting will be held on March 31, 2021 from 6:00 P.M. to 7:00 P.M. The meeting will be conducted online via zoom through the following link: https://burbankca.zoom.us/j/96124014316 and will be recorded.

All interested parties are invited to attend the public scoping meeting to assist in identifying issues to be addressed in the EIR. A presentation will begin at 6:00 P.M., then public comments for the EIR will be received and attendees will have an opportunity to provide input to the consultants preparing the EIR.

Date: March 17, 2021 Signature: ______________________

Lisa Frank
Title: Senior Planner
Telephone: (818) 238-5250

Burbank Housing Element Update Project Description

The Burbank Housing Element Update and Associated General Plan Updates involves an update to the Housing Element for the 2021-2029 planning period, along with minor updates to the Safety and Mobility Elements, and incorporate environmental justice goals, policies and objectives to the City of Burbank's 2035 General Plan. The Project would apply to the entire geographic area located within the boundaries of the City of Burbank, which encompasses 17.1 square miles. Figure 1 and Figure 2, below, illustrate the location of the Project in a regional and local context. The proposed Housing Element Update establishes programs, policies and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community, provides evidence of the City's ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG), and identifies any rezoning program needed to reach the required housing capacity. The Project also includes necessary updates to the Safety Element triggered under State law by an update to the Housing Element, and updates to the Mobility Element to incorporate VMT (vehicle miles traveled) metrics.

The Housing Element Update will provide a framework for introducing new housing at all levels of affordability that is within access to transit, Downtown jobs, services, and open spaces. These units may occur anywhere in the City where residential uses are permitted, as well as in areas that may be rezoned in the future to allow for multi-family residential and mixed use of adequate density. Through its identification of sites for future development and implementing housing programs, the updated Housing Element will lay the foundation for achievement of the City's fair share housing needs for approximately 10,088 additional units.

The purpose of the Safety Element Update is to ensure consistency with the Housing Element Update and to comply with recent State legislation and guidelines (including Assembly Bill 162, Senate Bill 1241, Senate Bill 99, Assembly Bill 747, Senate Bill 1035 and Senate Bill 379). Technical amendments will be made to the Safety Element to achieve compliance with State, regional, and local policies and guidelines. The technical amendments will incorporate data and maps, address vulnerability to climate change; incorporate policies and programs from the City's Hazard Mitigation Plan and the Greenhouse Gas Reduction Plan, as well as partial or full integration of other City documents and programs (including but not limited to: Ready Burbank and the Emergency Survival Program). The Safety Element amendments will be submitted to the California Geological Survey, California Office of Emergency Services, California State Board of Forestry and Fire Protection, and Federal Emergency Management Agency for review.

Senate Bill 1000 (SB 1000) states that revisions or adoption of two or more elements of a general plan on or after January 1, 2018 trigger a requirement to "adopt or review the Environmental Justice Element, or the environmental justice goals, policies, and objectives in other elements." Environmental justice goals, policies, and objectives must aim to reduce health risks to disadvantaged communities (DACs), promote civil engagement, and prioritize the needs of these communities. There are several designated DACs identified in central, northwest, and southeast Burbank. These seven census tracts have overall scores that meet or exceed the minimum criteria for DAC designation based on pollution burden and population characteristics. As mandated under SB 1000, the Safety Element update will consider strategies to reduce pollution exposure, promote public facilities, promote food access, promote safe and sanitary homes, promote physical activity, reduce unique or compounded health risks, promote civic engagement, and prioritize the needs of these disadvantaged communities.

Figure 1 Regional Location

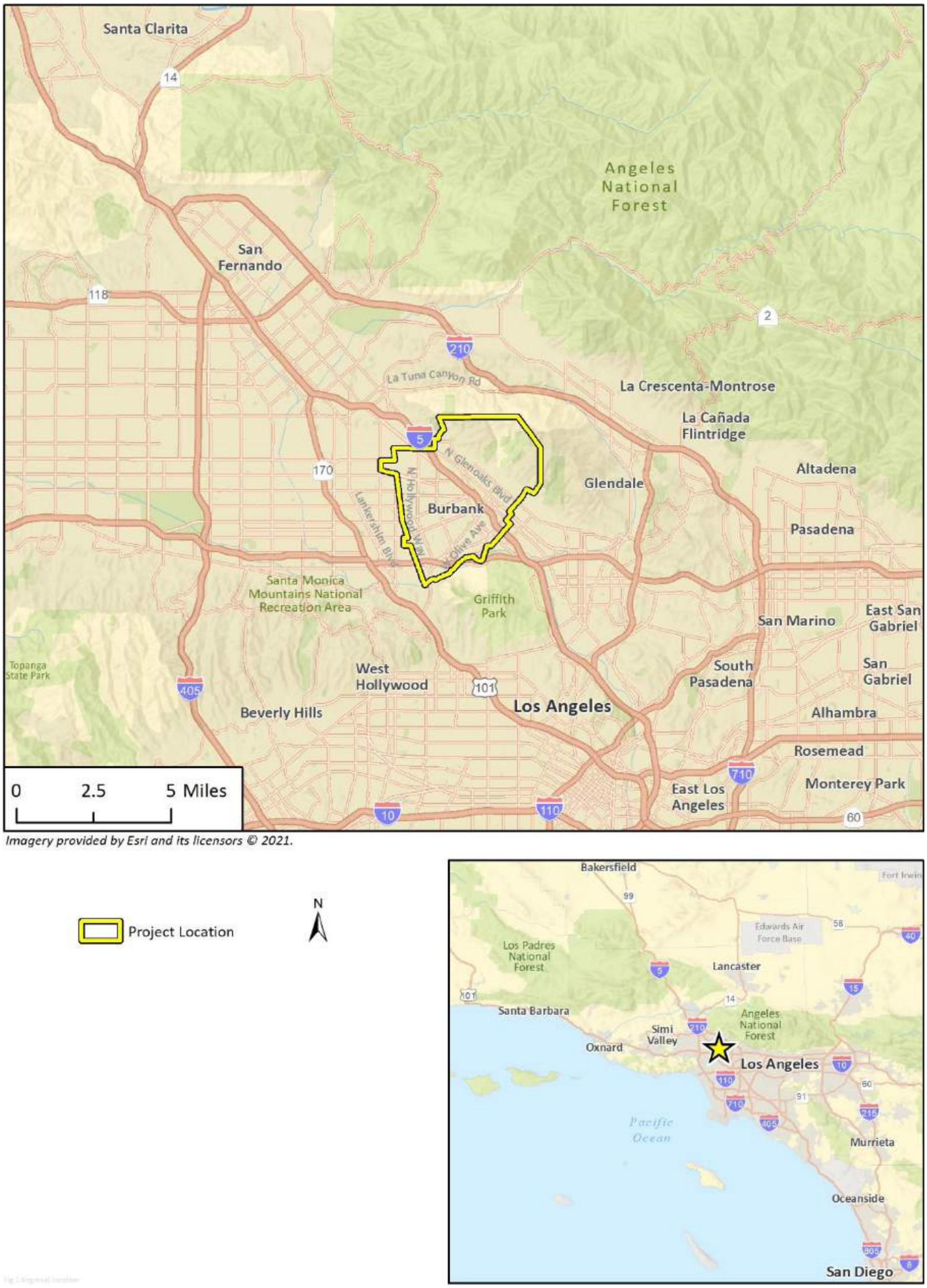

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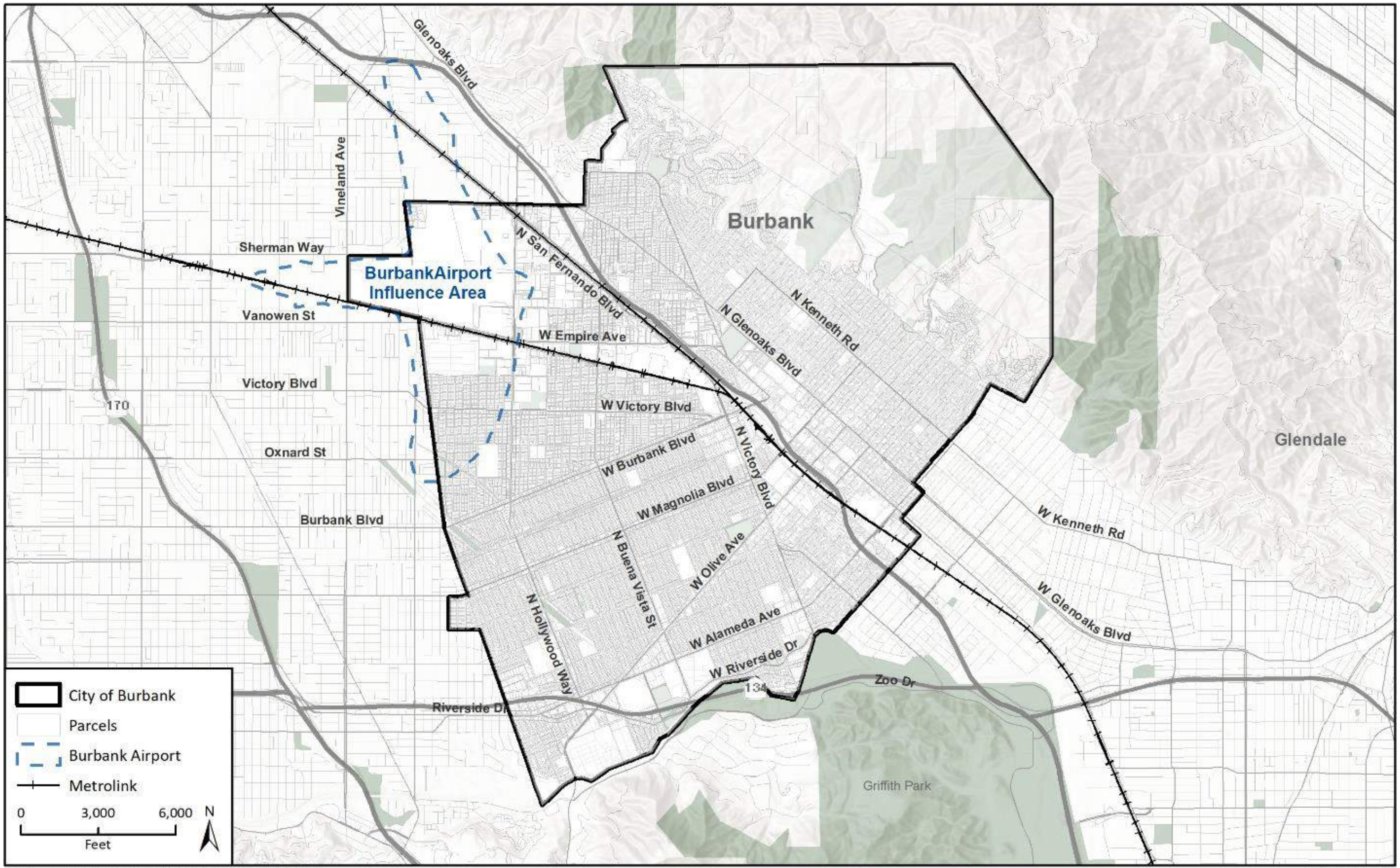
Figure 1 Project Location



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FigX City of Burbank

STATE OF CALIFORNIA Gavin Newsom, Governor

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

March 1, 2021

Lisa Frank
City of Burbank
150 North Third Street
Burbank, CA 91502

Re: 2021020393, Burbank Housing Element and Associated General Plan Updates Project, Los Angeles

Dear Ms. Frank:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a separate category of cultural resources, "tribal cultural resources" (Pub. Resources Code §21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment. (Pub. Resources Code §21084.2). Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code §21084.3 (a)). **AB 52 applies to any project for which a notice of preparation, a notice of negative declaration, or a mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements.** If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. §800 et seq.) may also apply.

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of <u>portions</u> of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a lead agency shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:

a. A brief description of the project.

b. The lead agency contact information.

c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code §21080.3.1 (d)).

d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code §21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A lead agency shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code §21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or Environmental Impact Report. (Pub. Resources Code §21080.3.1(b)).

a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code §65352.4 (SB 18). (Pub. Resources Code §21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:

a. Alternatives to the project.

b. Recommended mitigation measures.

c. Significant effects. (Pub. Resources Code §21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:

a. Type of environmental review necessary.

b. Significance of the tribal cultural resources.

c. Significance of the project's impacts on tribal cultural resources.

d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code §21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code §6254 (r) and §6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code §21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:

a. Whether the proposed project has a significant impact on an identified tribal cultural resource.

b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code §21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code §21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:

- **a.** The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
- **b.** A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code §21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code §21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code §21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code §21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code §21084.3 (b). (Pub. Resources Code §21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:

- **a.** Avoidance and preservation of the resources in place, including, but not limited to:
    - **i.** Planning and construction to avoid the resources and protect the cultural and natural context.
    - **ii.** Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
- **b.** Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
    - **i.** Protecting the cultural character and integrity of the resource.
    - **ii.** Protecting the traditional use of the resource.
    - **iii.** Protecting the confidentiality of the resource.
- **c.** Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
- **d.** Protecting the resource. (Pub. Resource Code §21084.3 (b)).
- **e.** Please note that a federally recognized California Native American tribe or a non-federally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code §815.3 (c)).
- **f.** Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code §5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An Environmental Impact Report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:

- **a.** The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code §21080.3.1 and §21080.3.2 and concluded pursuant to Public Resources Code §21080.3.2.
- **b.** The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
- **c.** The lead agency provided notice of the project to the tribe in compliance with Public Resources Code §21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code §21082.3 (d)).

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code §65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf.

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code §65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code §65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code §5097.9 and §5097.993 that are within the city's or county's jurisdiction. (Gov. Code §65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    - **a.** The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    - **b.** Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/.

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    - **a.** If part or all of the APE has been previously surveyed for cultural resources.
    - **b.** If any known cultural resources have already been recorded on or adjacent to the APE.
    - **c.** If the probability is low, moderate, or high that cultural resources are located in the APE.
    - **d.** If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    - **a.** The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:

a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.

b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.

a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, §15064.5(f) (CEQA Guidelines §15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.

b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.

c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code §7050.5, Public Resources Code §5097.98, and Cal. Code Regs., tit. 14, §15064.5, subdivisions (d) and (e) (CEQA Guidelines §15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

cc: State Clearinghouse

STATE OF CALIFORNIA **Gavin Newsom, *Governor***

NATIVE AMERICAN HERITAGE COMMISSION

NAHC HEADQUARTERS
1550 Harbor Boulevard
Suite 100
West Sacramento,
California 95691
(916) 373-3710
nahc@nahc.ca.gov
NAHC.ca.gov

April 6, 2021

Lisa Frank
City of Burbank

Via Email to: lfrank@burbankca.gov

Re: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, as well as Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2, Burbank Housing Element Update and Associated General Plan Updates Project, Los Angeles County

Dear Ms. Frank:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties or projects.

Government Codes §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

Public Resources Codes §21080.3.1 and §21080.3.2 requires public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to tribal cultural resources as defined, for California Environmental Quality Act (CEQA) projects.

The law does not preclude local governments and agencies from initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

Best practice for the AB52 process and in accordance with Public Resources Code §21080.3.1(d), is to do the following:

Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The NAHC also recommends, but does not require that lead agencies include in their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential affect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

    - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;
    - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;
    - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and
    - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

    - Any report that may contain site forms, site significance, and suggested mitigation measures.

      All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The result of the Sacred Lands File (SFL) check conducted through the Native American Heritage Commission was positive. Please contact the Fernandeno Tataviam Band of Mission Indians on the attached list for more information.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Los Angeles County
4/6/2021

Fernandeno Tataviam Band of Mission Indians
Rudy Ortega, Tribal President
1019 Second Street, Suite 1
San Fernando, CA, 91340
Phone: (818) 837 - 0794
Fax: (818) 837-0796
rortega@tataviam-nsn.us
Tataviam

Fernandeno Tataviam Band of Mission Indians
Jairo Avila, Tribal Historic and Cultural Preservation Officer
1019 Second Street, Suite 1
San Fernando, CA, 91340
Phone: (818) 837 - 0794
Fax: (818) 837-0796
jairo.avila@tataviam-nsn.us
Tataviam

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org
Gabrieleno

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA, 91778
Phone: (626) 483 - 3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com
Gabrieleno

Gabrielino /Tongva Nation
Sandonne Goad, Chairperson
106 1/2 Judge John Aiso St., #231
Los Angeles, CA, 90012
Phone: (951) 807 - 0479
sgoad@gabrielino-tongva.com
Gabrielino

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com
Gabrielino

Gabrielino-Tongva Tribe
Charles Alvarez,
23454 Vanowen Street
West Hills, CA, 91307
Phone: (310) 403 - 6048
roadkingcharles@aol.com
Gabrielino

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosa-nsn.gov
Cahuilla

Soboba Band of Luiseno Indians
Isaiah Vivanco, Chairperson
P. O. Box 487
San Jacinto, CA, 92581
Phone: (951) 654 - 5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov
Cahuilla
Luiseno

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produced. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is applicable only for consultation with Native American tribes under Government Code Sections 65352.3, 65352.4 et seq. and Public Resources Code Sections 21080.3.1 for the proposed Burbank Housing Element Update and Associated General Plan Updates Project, Los Angeles County.

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

DEPARTMENT OF TRANSPORTATION
DISTRICT 7 – Office of Regional Planning
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-0475
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Making Conservation
a California Way of Life.

March 8, 2021

Lisa Frank
City of Burbank
Community Development Department
150 North Third Street
Burbank, CA 91502

RE: Burbank Housing Element Update and
Associated General Plan Updates – Notice
of Preparation of an Environmental Impact
Report (NOP)
SCH # 2021020393
GTS # 07-LA-2021-03505
Vic. LA-5/PM: 29.126

Dear Lisa Frank:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced NOP. The project involves an update to the City of Burbank's Housing Element for the 2021-2029 planning period, along with minor updates to the Safety and Mobility Elements, and the incorporation of environmental justice goals, policies and objectives to the City of Burbank's 2035 General Plan. The proposed Housing Element Update establishes programs, policies, and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community. It will also provide evidence of the City's ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG), and identifies any rezoning program needed to reach the required housing capacity. In addition, the project includes necessary updates to the Safety Element triggered under State law by an update to the Housing Element, as well as updates to the Mobility Element to incorporate vehicle miles traveled (VMT) metrics. The City of Burbank is the Lead Agency under the California Environmental Quality Act (CEQA).

The project, which spans the entire City of Burbank, intersects with State Route 134 (SR-134) and Interstate 5 (I-5), and is located in close proximity to the United States 101 (US-101). From reviewing the NOP, Caltrans has the following comments:

- For information on determining transportation impacts in terms of VMT on the State Highway System, see the *Technical Advisory on Evaluating Transportation Impacts in CEQA* by the California Governor's Office of Planning and Research (OPR), dated December 2018: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.
- The City can also refer to Caltrans' updated *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* (TISG), dated May 2020 and released on Caltrans' website in July 2020: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf. Caltrans' new TISG is largely based on the OPR 2018 Technical Advisory.

- Caltrans looks forward to reviewing the VMT analysis for this project. As discussed in Caltrans' new TISG, Caltrans strongly recommends undertaking project VMT analysis, significance determination, and potential mitigation in a manner consistent with OPR's Technical Advisory.
- The updated TISG states, "Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and that focuses on multi-modal conflict analysis as well as access management issues." Since releasing the TISG, Caltrans has released interim safety analysis guidance, dated December 2020 and found here, for the City's reference: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-12-22-updated-interim-ldigr-safety-review-guidance-a11y.pdf.
- Caltrans encourages lead agencies to complete traffic safety impact analysis in the California Environmental Quality Act (CEQA) review process so that, through partnerships and collaboration, California can reach zero fatalities and serious injuries by 2050.

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. For TDM options to potentially include in the updated Housing, Safety, or Mobility elements, please refer to:

- 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.

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-2021-03505.

Sincerely,

Miya Edmonson

MIYA EDMONSON
IGR/CEQA Branch Chief
cc: Scott Morgan, State Clearinghouse

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director

March 11, 2021

Lisa Frank
City of Burbank
150 North Third Street
Burbank, CA 91502
LFrank@burbankca.gov

Subject: Notice of Preparation of a Draft Environmental Impact Report for the Burbank Housing Element Update and Associated General Plan Updates Project, SCH #2021020393, City of Burbank, Los Angeles County

Dear Ms. Frank:

The California Department of Fish and Wildlife (CDFW) has reviewed the Notice of Preparation (NOP) of a Draft Environmental Impact Report (DEIR) from the City of Burbank (City; Lead Agency) for the Burbank Housing Element Update and Associated General Plan Updates Project (Project). Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, we appreciate the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW's Role

CDFW is California's Trustee Agency for fish and wildlife resources and holds those resources in trust by statute for all the people of the State [Fish & G. Code, §§ 711.7, subdivision (a) & 1802; Pub. Resources Code, § 21070; California Environmental Quality Act (CEQA) Guidelines, § 15386, subdivision (a)]. CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (Id., § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect State fish and wildlife resources.

CDFW is also submitting comments as a Responsible Agency under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code, including lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 *et seq*.). Likewise, to the extent implementation of the Project as proposed may result in "take", as defined by State law, of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 *et seq.*), or CESA-listed rare plant pursuant to the Native Plant Protection Act (NPPA; Fish & G. Code, §1900 *et seq.*), CDFW recommends the Project proponent obtain appropriate authorization under the Fish and Game Code.

Project Description and Summary

Objective: The Project involves an update to the Housing Element for the 2021-2029 planning period, along with minor updates to the Safety and Mobility Elements. The Project also incorporates environmental justice goals, policies, and objectives to the City of Burbank's 2035 General Plan. The proposed Housing Element Update establishes programs, policies, and actions to further the goal of meeting the existing and projected housing needs of all family income levels and provides evidence of the City's ability to meet the Southern California Association of Government's 2029 Regional Housing Needs Assessment. The purpose of the Safety Element Update is to ensure consistency with the Housing Element Update and to comply with recent State legislation and guidelines. Technical amendments will be made to the Safety Element to incorporate data and map; address vulnerability to climate change; incorporate policies and programs from the City's Hazard Mitigation Plan and the Greenhouse Gas Reduction Plan; and partially or fully integrate other City documents and programs. Updates to the Mobility Element will incorporate vehicle miles traveled (VMT) metrics. The environmental justice updates will include goals, policies, and objectives aimed at reducing health risks to disadvantaged communities, promote civil engagement, and prioritize the needs of these communities.

Location: The Project would apply to the entire geographic area located within the boundaries of the City of Burbank that encompasses 17.1 square miles in central Los Angeles County.

Comments and Recommendations

CDFW offers the comments and recommendations below to assist the City in adequately identifying, avoiding, and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources.

Specific Comments

1) Adequate Sites Inventory. CDFW recommends the City prepare a map of the following areas if present within or adjacent to the City boundary. In addition, the City should consider the Project's potential impacts on the following areas if present within or adjacent to the Project boundary:

    a) Conservation easements or mitigation lands;
    b) U.S. Fish and Wildlife Service Threatened & Endangered Species Active Critical Habitat (USFWS 2020);
    c) County of Los Angeles Significant Ecological Areas (SEAs);
    d) Wildlife corridors, such as those found along the Verdugo Mountains
    e) Sensitive Natural Communities [see General Comment #3 (Biological Baseline Assessment)];
    f) Aquatic and riparian resources including (but not limited to) rivers, channels, streams, wetlands, and vernal pools, and associated natural plant communities; and,
    g) Urban forests, particularly areas with dense and large trees [see Specific Comment #4 (Loss of Bird and Raptor Nesting Habitat)].

    CDFW recommends the City avoid sites that may have a direct or indirect impact on conservation easements or lands set aside as mitigation. CDFW recommends the DEIR include measures where future housing development facilitated by the Project mitigate (avoid if feasible) for impacts on biological resources occurring within SEAs and critical habitat, as well as mitigate for impacts on wildlife corridors, sensitive natural communities, aquatic and riparian resources, and urban forests.

2) Impacts on Wildlife Corridors and Wildlife. CDFW is concerned that the Project would impact wildlife corridors. Additionally, development occurring adjacent to natural habitat areas such as wildlife corridors could have direct or indirect impacts on wildlife. Impacts could result from increased human presence, traffic, noise, and artificial lighting. Increased human-wildlife interactions could lead to injury or mortality of wildlife. For instance, as human population and communities expand into wildland areas, there has been a commensurate increase in direct and indirect interaction between mountain lions and people (CDFW 2013). As a result, the need to relocate or humanely euthanize mountain lions (depredation kills) may increase for public safety.

   CDFW recommends the DEIR include measures where future housing development facilitated by the Project thoroughly analyze whether the project may impact wildlife corridors. Impacts include habitat loss and fragmentation, narrowing of a wildlife corridor, and introduction of barriers to wildlife movement. Additionally, CDFW recommends future development projects thoroughly analyze whether the project may have direct and indirect impacts wildlife resulting from increased human presence, traffic, noise, and artificial lighting.

3) Nesting Birds. CDFW recommends the DEIR include measures where future housing development facilitated by the Project avoids potential impacts to nesting birds. Project activities occurring during the bird and raptor breeding and nesting season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment.

   a) Migratory nongame native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (Code of Federal Regulations, Title 50, § 10.13). Sections 3503, 3503.5, and 3513 of the California Fish and Game Code prohibit take of all birds and their active nests including raptors and other migratory nongame birds (as listed under the Federal MBTA). It is unlawful to take, possess, or needlessly destroy the nest or eggs of any raptor.

   b) CDFW recommends that measures be taken to fully avoid impacts to nesting birds and raptors. Ground-disturbing activities (e.g., mobilizing, staging, drilling, and excavating) and vegetation removal should occur outside of the avian breeding season which generally runs from February 15 through August 31 (as early as January 1 for some raptors) to avoid take of birds, raptors, or their eggs.

   c) If impacts to nesting birds and raptors cannot be avoided, CDFW recommends the DEIR include measures where future housing development facilitated by the Project mitigates for impacts. CDFW recommends surveys by a qualified biologist with experience conducting breeding bird and raptor surveys. Surveys are needed to detect protected native birds and raptors occurring in suitable nesting habitat that may be disturbed and any other such habitat within 300 feet of the project disturbance area, to the extent allowable and accessible. For raptors, this radius should be expanded to 500 feet and 0.5 mile for special status species, if feasible. Project personnel, including all contractors working on site, should be instructed on the sensitivity of the area. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

4) Loss of Bird and Raptor Nesting Habitat. The biggest threat to birds is habitat loss and conversion of natural vegetation into another land use such as development (e.g., commercial, residential, industrial). In the greater Los Angeles region, urban forests and street trees, both native and some non-native species, provide habitat for a high diversity of birds (Wood and Esaian 2020). Some species of raptors have adapted to and exploited urban areas for breeding and nesting (Cooper et al. 2020). For example, raptors (*Accipitridae*, *Falconidae*) such as red-tailed hawks (*Buteo jamaicensis*) and Cooper's hawks (*Accipiter cooperii*) can nest successfully in urban sites. Red-tailed hawks commonly nest in ornamental vegetation such as eucalyptus (Cooper et al. 2020). According to iNaturalist, there are multiple observations of red-tailed hawks and Copper's hawks within the City.

   a) CDFW recommends the DEIR provide measures where future housing development facilitated by the Project avoids removal of any native trees, large and dense-canopied native and non-native trees, and trees occurring in high density (Wood and Esaian 2020). CDFW also recommends avoiding impacts to trees protected by the City's Heritage Tree Program and Tree Ordinance. CDFW also recommends avoiding impacts to understory vegetation (e.g., ground cover, subshrubs, shrubs, and trees).

   b) If impacts to trees cannot be avoided, trees should be replaced to compensate for the temporal or permanent loss habitat within a project site. Depending on the status of the bird or raptor species impacted, replacement habitat acres should increase with the occurrence of a California Species of Special Concern. Replacement habitat acres should further increase with the occurrence of a CESA-listed threatened or endangered species.

   c) CDFW recommends planting native tree species preferred by birds. This includes coast live oak (*Quercus agrifolia*) and California sycamore (*Platanus racemosa*) (Wood and Esaian 2020). CDFW recommends Audubon Society's Plants for Birds for more information on selecting native plants and trees beneficial to birds (Audubon Society 2020).

5) Bats. Numerous bat species are known to roost in trees and structures throughout Los Angeles County (Remington and Cooper 2014). In urbanized areas, bats use trees and man-made structures for daytime and nighttime roosts. Accordingly, CDFW recommends the DEIR provide measures where future housing development facilitated by the Project avoids potential impacts to bats.

   a) Bats are considered non-game mammals and are afforded protection by state law from take and/or harassment (Fish & G. Code, § 4150; Cal. Code of Regs., § 251.1). Project construction and activities, including (but not limited to) ground disturbance, vegetation removal, and any activities leading to increased noise levels may have direct and/or indirect impacts on bats and roosts.

   b) CDFW recommends a project-level biological resources survey provide a thorough discussion and adequate disclosure of potential impacts to bats and roosts from project construction and activities including (but not limited to) ground-disturbing activities (e.g., mobilizing, staging, drilling, and excavating) and vegetation removal. If necessary, to reduce impacts to less than significant, a project-level environmental document should provide bat-specific avoidance and/or mitigation measures [CEQA Guidelines, § 15126.4(a)(1)].

General Comments

1) Disclosure. An environmental document should provide an adequate, complete, and detailed disclosure about the effect which a proposed project is likely to have on the environment (Pub. Resources Code, § 20161; CEQA Guidelines, §15151). Adequate disclosure is necessary so CDFW may provide comments on the adequacy of proposed avoidance, minimization, or mitigation measures, as well as to assess the significance of the specific impact relative to the species (e.g., current range, distribution, population trends, and connectivity).

2) Mitigation Measures. Public agencies have a duty under CEQA to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of feasible alternatives or mitigation measures [CEQA Guidelines, §§ 15002(a)(3), 15021]. Pursuant to CEQA Guidelines section 15126.4, an environmental document shall describe feasible measures which could mitigate for impacts below a significant level under CEQA.

    a) Level of Detail. Mitigation measures must be feasible, effective, implemented, and fully enforceable/imposed by the lead agency through permit conditions, agreements, or other legally binding instruments (Pub. Resources Code, § 21081.6(b); CEQA Guidelines, §§ 15126.4, 15041). A public agency shall provide the measures that are fully enforceable through permit conditions, agreements, or other measures (Pub. Resources Code, § 21081.6). CDFW recommends that the City prepare mitigation measures that are specific, detailed (i.e., responsible party, timing, specific actions, location), and clear in order for a measure to be fully enforceable and implemented successfully via a mitigation monitoring and/or reporting program (CEQA Guidelines, § 15097; Pub. Resources Code, § 21081.6). Adequate disclosure is necessary so CDFW may provide comments on the adequacy and feasibility of proposed mitigation measures.

    b) Disclosure of Impacts. If a proposed mitigation measure would cause one or more significant effects, in addition to impacts caused by the Project as proposed, the environmental document should include a discussion of the effects of proposed mitigation measures [CEQA Guidelines, § 15126.4(a)(1)]. In that regard, the environmental document should provide an adequate, complete, and detailed disclosure about a project's proposed mitigation measure(s). Adequate disclosure is necessary so CDFW may assess the potential impacts of proposed mitigation measures.

3) Biological Baseline Assessment. An adequate biological resources assessment should provide a complete assessment and impact analysis of the flora and fauna within and adjacent to a project site and where a project may result in ground disturbance. The assessment and analysis should place emphasis upon identifying endangered, threatened, sensitive, regionally, and locally unique species, and sensitive habitats. Impact analysis will

aid in determining any direct, indirect, and cumulative biological impacts, as well as specific mitigation or avoidance measures necessary to offset those impacts. CDFW recommends avoiding any sensitive natural communities found on or adjacent to a project. CDFW also considers impacts to Species of Special Concern a significant direct and cumulative adverse effect without implementing appropriate avoid and/or mitigation measures. A project-level environmental document should include the following information:

a) Information on the regional setting that is critical to an assessment of environmental impacts, with special emphasis on resources that are rare or unique to the region [CEQA Guidelines, § 15125(c)]. An environmental document should include measures to fully avoid and otherwise protect Sensitive Natural Communities from project-related impacts. CDFW considers these communities as threatened habitats having both regional and local significance. Plant communities, alliances, and associations with a state-wide ranking of S1, S2, S3 and S4 should be considered sensitive and declining at the local and regional level. These ranks can be obtained by visiting Vegetation Classification and Mapping Program - Natural Communities webpage (CDFW 2020a);

b) A thorough, recent, floristic-based assessment of special status plants and natural communities following CDFW's Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018). Adjoining habitat areas should be included where project construction and activities could lead to direct or indirect impacts off site;

c) Floristic, alliance- and/or association-based mapping and vegetation impact assessments conducted at a project site and within the neighboring vicinity. The Manual of California Vegetation (MCV), second edition, should also be used to inform this mapping and assessment (Sawyer et al. 2009). Adjoining habitat areas should be included in this assessment where project activities could lead to direct or indirect impacts off site. Habitat mapping at the alliance level will help establish baseline vegetation conditions;

d) A complete, recent, assessment of the biological resources associated with each habitat type on site and within adjacent areas that could also be affected by a project. CDFW's California Natural Diversity Database (CNDDB) in Sacramento should be contacted to obtain current information on any previously reported sensitive species and habitat (CDFW 2020b). An assessment should include a nine-quadrangle search of the CNDDB to determine a list of species potentially present at a project site. A lack of records in the CNDDB does not mean that rare, threatened, or endangered plants and wildlife do not occur in the project site. Field verification for the presence or absence of sensitive species is necessary to provide a complete biological assessment for adequate CEQA review [CEQA Guidelines, § 15003(i)];

e) A complete, recent, assessment of rare, threatened, and endangered, and other sensitive species on site and within the area of potential effect, including California Species of Special Concern, and California Fully Protected Species (Fish & G. Code, §§ 3511, 4700, 5050, and 5515). Species to be addressed should include all those which meet the CEQA definition of endangered, rare, or threatened species (CEQA Guidelines, § 15380). Seasonal variations in use of a project site should also be addressed such as wintering, roosting, nesting, and foraging habitat. Focused species-specific surveys, conducted at the appropriate time of year and time of day when the sensitive species are active or otherwise identifiable, may be required if suitable habitat is present. See CDFW's Survey and Monitoring Protocols and Guidelines for established survey protocol for select species (CDFW 2020c). Acceptable species-specific survey procedures may be developed in consultation with CDFW and the U.S. Fish and Wildlife Service; and,

f) A recent wildlife and rare plant survey. CDFW generally considers biological field assessments for wildlife to be valid for a one-year period, and assessments for rare plants may be considered valid for a period of up to three years. Some aspects of a proposed project may warrant periodic updated surveys for certain sensitive taxa, particularly if build out could occur over a protracted time frame or in phases.

g) A biological resources survey should include identification and delineation of any rivers, streams, and lakes and their associated natural plant communities/habitats. This includes any culverts, ditches, storm channels that may transport water, sediment, pollutants, and discharge into rivers, streams, and lakes.

4) Data. CEQA requires that information developed in environmental impact reports be incorporated into a database which may be used to make subsequent or supplemental environmental determinations [Pub. Resources Code, § 21003, subd. (e)]. Accordingly, please report any special status species and natural communities detected by completing and submitting CNDDB Field Survey Forms (CDFW 2020d). The City should ensure data collected at a project-level has been properly submitted, with all data fields applicable filled out. The data entry should also list pending development as a threat and then update this occurrence after impacts have occurred.

5) Biological Direct, Indirect, and Cumulative Impacts. CDFW recommends providing a thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts. The DEIR should address the following:

a) A discussion regarding Project-related indirect impacts on biological resources, including resources in nearby public lands, open space, adjacent natural habitats, riparian ecosystems, and any designated and/or proposed or existing reserve lands [e.g., preserve lands associated with a Natural Community Conservation Plan (NCCP, Fish & G. Code, § 2800 et. seq.)]. Impacts on, and maintenance of, wildlife corridor/movement areas, including access to undisturbed habitats in adjacent areas, should be fully evaluated in the DEIR;

b) A discussion of both the short-term and long-term effects to species population distribution and concentration and alterations of the ecosystem supporting the species impacted [CEQA Guidelines, § 15126.2(a)];

c) A discussion of potential adverse impacts from lighting, noise, temporary and permanent human activity, and exotic species, and identification of any mitigation measures;

d) A discussion on Project-related changes on drainage patterns; the volume, velocity, and frequency of existing and post-Project surface flows; polluted runoff; soil erosion and/or sedimentation in streams and water bodies; and, post-Project fate of runoff from the Project sites. The discussion should also address the potential water extraction activities and the potential resulting impacts on the habitat (if any) supported by the groundwater. Mitigation measures proposed to alleviate such Project impacts should be included;

e) An analysis of impacts from proposed changes to land use designations and zoning, and existing land use designation and zoning located nearby or adjacent to natural areas that may inadvertently contribute to wildlife-human interactions. A discussion of possible conflicts and mitigation measures to reduce these conflicts should be included in the DEIR; and,

f) A cumulative effects analysis, as described under CEQA Guidelines section 15130. General and specific plans, as well as past, present, and anticipated future projects, should be analyzed relative to their impacts on similar plant and wildlife species, habitat, and vegetation communities. If the City determines that the Project would not have a cumulative impact, the environmental document should indicate why the cumulative impact is not significant. The City's conclusion should be supported by facts and analyses [CEQA Guidelines, § 15130(a)(2)].

6) Project Description and Alternatives. To enable CDFW to adequately review and comment on the proposed Project from the standpoint of the protection of plants, fish, and wildlife, we recommend the following information be included in the DEIR:

a) A complete discussion of the purpose and need for, and description of, the proposed Project;

b) CEQA Guidelines section 15126.6(a) states that an environmental document shall describe a reasonable range of potentially feasible alternatives to the Project, or to the location of the Project, which would feasibly attain most of the basic objectives of the Project but would avoid or substantially lessen any of the significant effects of the Project. CEQA Guidelines section 15126.6(f)(2) states if the Lead Agency concludes that no feasible alternative locations exist, it must disclose the reasons for this conclusion and should include reasons in the environmental document; and,

c) A range of feasible alternatives to Project component location and design features to avoid or otherwise minimize direct and indirect impacts to sensitive biological resources and wildlife movement areas. CDFW recommends the City consider configuring Project construction and activities, as well as the development footprint, in such a way as to fully avoid impacts to sensitive and special status plants and wildlife species, habitat, and sensitive vegetation communities. CDFW also recommends the City consider establishing appropriate setbacks from sensitive and special status biological resources. Setbacks should not be impacted by ground disturbance or hydrological changes for the duration of the Project and from any future development. As a general rule, CDFW recommends reducing or clustering the development footprint to retain unobstructed spaces for vegetation and wildlife and provide connections for wildlife between properties and minimize obstacles to open space.

Project alternatives should be thoroughly evaluated, even if an alternative would impede, to some degree, the attainment of the Project objectives or would be more costly (CEQA

Guidelines, § 15126.6).

d) Where the Project may impact aquatic and riparian resources, CDFW recommends the City consider alternatives that would fully avoid impacts to such resources. CDFW also recommends alternatives that would allow not impede, alter, or otherwise modify existing surface flow; watercourse and meander; and water-dependent ecosystems and vegetation communities. Project-related designs should consider elevated crossings to avoid channelizing or narrowing of streams. Any modifications to a river, creek, or stream may cause or magnify upstream bank erosion, channel incision, and drop in water level and cause the stream to alter its course of flow.

7) CESA. CDFW considers adverse impacts to a species protected by CESA to be significant without mitigation under CEQA. As to CESA, take of any endangered, threatened, candidate species, or CESA-listed plant species that results from the Project is prohibited, except as authorized by state law (Fish & G. Code §§ 2080, 2085; Cal. Code Regs., tit. 14, §786.9). Consequently, if the Project or any Project-related activity during the life of the Project will result in take of a species designated as endangered or threatened, or a candidate for listing under CESA, CDFW recommends that the Project proponent seek appropriate take authorization under CESA prior to implementing the Project. Appropriate authorization from CDFW may include an Incidental Take Permit (ITP) or a consistency determination in certain circumstances, among other options [Fish & Game Code, §§ 2080.1, 2081, subds. (b) and (c)]. Early consultation is encouraged, as significant modification to a Project and mitigation measures may be required in order to obtain a CESA Permit. Revisions to the Fish and Game Code, effective January 1998, may require that CDFW issue a separate CEQA document for the issuance of an ITP unless the Project CEQA document addresses all Project impacts to CESA-listed species and specifies a mitigation monitoring and reporting program that will meet the requirements of an ITP. For these reasons, biological mitigation monitoring and reporting proposals should be of sufficient detail and resolution to satisfy the requirements for a CESA ITP.

8) Jurisdictional Waters. As a Responsible Agency under CEQA, CDFW has authority over activities in streams and/or lakes that will divert or obstruct the natural flow, or change the bed, channel, or bank (including vegetation associated with the stream or lake) of a river or stream, or use material from a streambed. For any such activities, the project applicant (or "entity") must provide written notification to CDFW pursuant to Fish and Game Code Section 1600 *et seq*.

a) CDFW's issuance of a Lake and Streambed Alteration (LSA) Agreement for a project that is subject to CEQA will require CEQA compliance actions by CDFW as a Responsible Agency. As a Responsible Agency, CDFW may consider the environmental document of the local jurisdiction (Lead Agency) for the project. To minimize additional requirements by CDFW pursuant to section 1600 *et seq.* and/or under CEQA, the environmental document should fully identify the potential impacts to the stream or riparian resources and provide adequate avoidance, mitigation, monitoring and reporting commitments for issuance of the LSA Agreement. Please visit CDFW's Lake and Streambed Alteration Program webpage for information about LSA Notification (CDFW 2020e).

b) In the event the project area may support aquatic, riparian, and wetland habitats; a preliminary delineation of the streams and their associated riparian habitats should be included in the environmental document. The delineation should be conducted pursuant to the U.S. Fish and Wildlife Service (USFWS) wetland definition adopted by CDFW (Cowardin et al. 1970). Be advised that some wetland and riparian habitats subject to CDFW's authority may extend beyond the jurisdictional limits of the U.S. Army Corps of Engineers' Section 404 permit and Regional Water Quality Control Board Section 401 Certification.

c) In project areas which may support ephemeral or episodic streams, herbaceous vegetation, woody vegetation, and woodlands also serve to protect the integrity of these resources and help maintain natural sedimentation processes; therefore, CDFW recommends effective setbacks be established to maintain appropriately sized vegetated buffer areas adjoining ephemeral drainages.

d) Project-related changes in upstream and downstream drainage patterns, runoff, and sedimentation should be included and evaluated in the environmental document.

e) As part of the LSA Notification process, CDFW requests a hydrological evaluation of the 100, 50, 25, 10, 5, and 2-year frequency storm event for existing and proposed conditions. CDFW recommends the environmental document evaluate the results and address avoidance, minimization, and/or mitigation measures that may be necessary to reduce potential significant impacts.

9) Wetland Resources. CDFW, as described in Fish and Game Code section 703(a), is guided by the Fish and Game Commission's (Commission) policies. The Wetlands Resources policy the Commission "…seek[s] to provide for the protection, preservation, restoration, enhancement and expansion of wetland habitat in California (CFGC 2020). Further, it is the policy of the Fish and Game Commission to strongly discourage development in or conversion of wetlands. It opposes, consistent with its legal authority, any development or conversion that would result in a reduction of wetland acreage or wetland habitat values. To that end, the Commission opposes wetland development proposals unless, at a minimum, project mitigation assures there will be 'no net loss' of either wetland habitat values or acreage. The Commission strongly prefers mitigation which would achieve expansion of wetland acreage and enhancement of wetland habitat values."

a) The Wetlands Resources policy provides a framework for maintaining wetland resources and establishes mitigation guidance. CDFW encourages avoidance of wetland resources as a primary mitigation measure and discourages the development or type conversion of wetlands to uplands. CDFW encourages activities that would avoid the reduction of wetland acreage, function, or habitat values. Once avoidance and minimization measures have been exhausted, a project must include mitigation measures to assure a "no net loss" of either wetland habitat values, or acreage, for unavoidable impacts to wetland resources. Conversions include, but are not limited to, conversion to subsurface drains, placement of fill or building of structures within the wetland, and channelization or removal of materials from the streambed. All wetlands and watercourses, whether ephemeral, intermittent, or perennial, should be retained and provided with substantial setbacks, which preserve the riparian and aquatic values and functions for the benefit to on-site and off-site wildlife populations. CDFW recommends mitigation measures to compensate for unavoidable impacts be included in an environmental document and these measures should compensate for the loss of function and value.

b) The Fish and Game Commission’s Water policy guides CDFW on the quantity and quality of the waters of this State that should be apportioned and maintained respectively so as to produce and sustain maximum numbers of fish and wildlife; to provide maximum protection and enhancement of fish and wildlife and their habitat; encourage and support programs to maintain or restore a high quality of the waters of this State; prevent the degradation thereof caused by pollution and contamination; and, endeavor to keep as much water as possible open and accessible to the public for the use and enjoyment of fish and wildlife. CDFW recommends avoidance of water practices and structures that use excessive amounts of water, and minimization of impacts that negatively affect water quality, to the extent feasible (Fish & G. Code, § 5650).

10) Translocation/Salvage of Plants and Animal Species. Translocation and transplantation is the process of moving an individual from a project site and permanently moving it to a new location. CDFW generally does not support the use of, translocation or transplantation as the primary mitigation strategy for unavoidable impacts to rare, threatened, or endangered plant or animal species. Studies have shown that these efforts are experimental and the outcome unreliable. CDFW has found that permanent preservation and management of habitat capable of supporting these species is often a more effective long-term strategy for conserving sensitive plants and animals and their habitats.

11) Compensatory Mitigation. An environmental document should include mitigation measures for adverse Project related direct or indirect impacts to sensitive plants, animals, and habitats. Mitigation measures should emphasize avoidance and reduction of project-related impacts. For unavoidable impacts, on-site habitat restoration or enhancement should be discussed in detail. If on-site mitigation is not feasible or would not be biologically viable and therefore not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity should be addressed. Areas proposed as mitigation lands should be protected in perpetuity with a conservation easement, financial assurance and dedicated to a qualified entity for long-term management and monitoring. Under Government Code, section 65967, the Lead Agency must exercise due diligence in reviewing the qualifications of a governmental entity, special district, or nonprofit organization to effectively manage and steward land, water, or natural resources on mitigation lands it approves.

12) Long-term Management of Mitigation Lands. For proposed preservation and/or restoration, an environmental document should include measures to protect the targeted habitat values from direct and indirect negative impacts in perpetuity. The objective should be to offset the project-induced qualitative and quantitative losses of wildlife habitat values. Issues that should be addressed include (but are not limited to) restrictions on access, proposed land dedications, monitoring and management programs, control of illegal dumping, water pollution, and increased human intrusion. An appropriate non-wasting endowment should be set aside to provide for long-term management of mitigation lands.

Conclusion

We appreciate the opportunity to comment on the NOP for the Burbank Housing Element Update and Associated General Plan Updates Project to assist the City of Burbank in identifying and mitigating Project impacts on biological resources. If you have any questions or comments regarding this letter, please contact Andrew Valand, Environmental Scientist, at Andrew.Valand@wildlife.ca.gov.

Sincerely,

DocuSigned by:
Erinn Wilson-Olgin
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Erinn Wilson-Olgin
Environmental Program Manager I
South Coast Region

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<u>VIA ELECTRONIC & U.S. MAIL</u>

March 19, 2021

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RE: Public Records Act and Mailing List Request Regarding Burbank Housing Element Update and Associated General Plan Updates (SCH #: 2021020393).

Dear Ms. Mullins and Ms. Frank,

On behalf of Southwest Regional Council of Carpenters ("**SWRCC**") and its members, this Office requests that the City of Burbank ("**City**") provide any and all information referring or related to the Burbank Housing Element Update and Associated General Plan Updates ("**Project**") pursuant to the California Public Records Act ("**PRA**"), Cal. Government ("**Gov't**") Code §§ 6250–6270 from on or after <Date Range> (collectively "**PRA Request**").

Moreover, the SWRCC requests that City 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.

The Southwest Regional Council of Carpenters is a labor union representing 50,000 union carpenters in six states, including in southern California, and has a strong interest in well-ordered land use planning and addressing the environmental impacts of development projects, such as the Project.

I. **PUBLIC RECORDS ACT REQUEST**.

SWRCC is requesting any and all information referring or related to the Project.

The Public Records Act defines the term "public record" broadly as "any writing containing information relating to the conduct of the public's business . . . regardless of physical form and characteristics." Gov't Code § 6252(d). "Records" includes all communications relating to public business regardless of physical form or characteristics, including but not limited to any writing, picture, sound, or symbol, whether paper, magnetic, electronic, text, other media, or written verification of any oral communication. Included in this request are any references in any appointment calendars and applications, phone records, or text records. These "records" are to include, but are not limited to correspondences, e-mails, reports, letters, memorandums, and communications by any employee or elected official of City concerning the Project.

Please include in your response to this request the following examples of "records," as well as any similar physical or electronic forms of communication: any form of writing such as correspondence, electronic mail records ("email"), legal and factual memoranda, facsimiles, photographs, maps, videotapes, film, data, reports, notes, audiotapes, or drawings. Cal. Government Code § 6252(g) (defining a writing to including "any record thereby created, regardless of the manner in which the record has been stored"). Responsive correspondence should include, inter alia, emails, text messages, or any other form of communication regardless of whether they were sent or received on public or privately-owned electronic devices "relating to the conduct of the public's business." Cal. Government Code § 6252(e); *Citizens for Ceres v. Super. Ct.* ("*Ceres*") (2013) 217 Cal. App. 4th 889, 909; *Citizens for Open Gov't v. City of Lodi ("Lodi")* (2012) 205 Cal.App.4th 296, 307, 311; *City of San Jose v. Superior Court* (2017) 2 Cal. 5th 608, 625 (finding that a public employee or officer's "writings about public business are not excluded" from the California Public Records Act "simply because they have been sent, received, or stored in a personal account.") .

This Office requests any and all information referring or related to the Project, including but not limited to:

(1) All Project application materials;

(2) All staff reports and related documents prepared by the City with respect to its compliance with the substantive and procedural requirements of the California Environmental Quality Act, Public Resources Code § 21000 et seq., and the CEQA Guidelines, title 14, California Code of Regulations, § 15000 et seq. (collectively "**CEQA**") and with respect to the action on the Project;

(3) All staff reports and related documents prepared by the City and written testimony or documents submitted by any person relevant to any findings or statement of overriding considerations adopted by the agency pursuant to CEQA;

(4) Any transcript or minutes of the proceedings at which the decisionmaking body of the City heard testimony on, or considered any environmental document on, the Project, and any transcript or minutes of proceedings before any advisory body to the public agency that were presented to the decisionmaking body prior to action on the environmental documents or on the Project;

(5) All notices issued by the City to comply with CEQA or with any other law governing the processing and approval of the Project;

(6) All written comments received in response to, or in connection with, environmental documents prepared for the Project, including responses to the notice of preparation;

(7) All written evidence or correspondence submitted to, or transferred from, the City with respect to compliance with CEQA or with respect to the Project;

(8) Any proposed decisions or findings submitted to the decisionmaking

body of the City by its staff, or the Project proponent, Project opponents, or other persons;

(9) The documentation of the final City decision and approvals, including the final environmental impact report, mitigated negative declaration, negative declaration, or notice of exemption, and all documents, in addition to those referenced in paragraph (3), cited or relied on in the findings or in a statement of overriding considerations adopted pursuant to CEQA;

(10) Any other written materials relevant to the public agency's compliance with CEQA or to its decision on the merits of the Project, including the initial study, any drafts of any environmental document, or portions thereof, that have been released for public review, and copies of studies or other documents relied upon in any environmental document prepared for the Project and either made available to the public during the public review period or included in the City 's files on the Project, and all internal agency communications, including staff notes and memoranda related to the Project or to compliance with CEQA; and

(11) The full written record before any inferior administrative decisionmaking body whose decision was appealed to a superior administrative decisionmaking body prior to the filing of any litigation.

Please respond within 10 days from the date you receive this request as to whether this request specifies identifiable records not exempt from disclosure under the PRA or otherwise privileged or confidential, and are therefore subject to disclosure. This Office understands that this time may be extended up to 14 days for unusual circumstances as provided by Cal. Government Code § 6253(c), and that we will be notified of any extension and the reasons justifying it.

We request that you provide all documents in electronic format and waive any and all fees associated with this Request. SWRCC is a community-based organization. Please notify and obtain express approval from this Office before incurring any duplication costs.

<u>If any of the above requested documents are available online, please provide us with the URL web address at which the documents may be downloaded. If any of the</u>

requested documents are retained by the City in electronic computer-readable format such as PDF (portable document format), please provide us with pdf copies of the documents via email, or inform us of the location at which we can copy these documents electronically.

In preparing your response, please bear in mind that you have an obligation under Government Code section 6253.1 to (1) identify all records and information responsive to our request or the purpose of our request; (2) describe the information technology and physical location in which the records exist; and (3) provide suggestions for overcoming any practical basis for denying access to the records or information sought.

In responding to this request, please bear in mind that any exemptions from disclosure you may believe to be applicable are to be narrowly construed. *Marken v. Santa Monica-Malibu Unif. Sch. Dist.* (2012) 202 Cal. App. 4th 1250,1262; and may be further narrowed or eliminated by the adoption of Proposition 59, which amended article I, section 3(b)(2) of the California Constitution to direct that any "statute ... or other authority ... [that] limits the right of access" to "information concerning the conduct of the people's business" must be "narrowly construed."

As for any records that you nonetheless decline to produce on the grounds of an exemption, please bear in mind that the case law under the Public Records Act imposes a duty on you to distinguish between the exempt and the non-exempt portion of any such records, and to attempt in good faith to redact the exempt portion and to disclose the balance of such documents.

Please bear in mind further that should you choose to withhold any document from disclosure, you have a duty under Government Code section 6255, subd. (a) to "justify withholding any record by demonstrating that the record in question is exempt under express provisions" of the Public Records Act or that "the public interest served by not disclosing the record clearly outweighs the public interest served by disclosure of the record."

Finally, please note that you must retain and not destroy any and all records, notwithstanding any local record retention or document destruction policies. As the Court noted in *Golden Door Properties, LLC v. Superior Court of San Diego County* (2020) 53 Cal.App.5th 733 that a public agency "must retain '[a]ll written evidence or correspondence submitted to, or transferred from' . . . with respect to" CEQA compliance or "with respect to the project."

II. NOTICE LIST REQUEST.

We also ask that you put this Office on its notice list for any and all notices issued under the CEQA and the Planning and Zoning Law.

In particular, we request that City send by mail or electronic mail 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 subdivision for the Project, or supported, in whole or in part, through permits, contracts, grants, subsidies, loans, or other forms of approvals, actions or assistance, including but not limited to the following:

- Notices of any public hearing held in connection with the Project; as well as
- Any and all notices prepared pursuant to CEQA, including but not limited to:
- Notices of determination that an Environmental Impact Report ("EIR") or supplemental EIR is required for a project, prepared pursuant to Public Resources Code Section 21080.4;
- Notices of availability of an EIR or a negative declaration for a project prepared pursuant to Public Resources Code Section 21152 and Section 15087 of Title 14 of the California Code of Regulations;
- Notices of approval or determination to carry out a project, prepared pursuant to Public Resources Code Section 21152 or any other provision of law;
- Notice of approval or certification of any EIR or negative declaration prepared pursuant to Public Resources Code Section 21152 or any other provision of law;
- Notice of exemption from CEQA prepared pursuant to Public Resources Code section 21152 or any other provision of law; and
- Notice of any Final EIR prepared pursuant to CEQA.

This Office is requesting notices of any approvals or public hearings under CEQA and the California Planning and Zoning Law. This request is filed pursuant to California Public Resources Code Sections 21092.2, and 21167(f) and Government Code Section 65092 requiring 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.

Please send notice by regular and electronic mail to:

Mitchell M. Tsai, Attorney At Law
155 South El Molino Avenue
Suite 104
Pasadena, California 91101
Em: mitch@mitchtsailaw.com
Em: greg@mitchtsailaw.com
Em: leon@mitchtsailaw.com

We look forward to working with you. If you have any questions or concerns, please do not hesitate to contact our Office.

Sincerely,

Mitchell M. Tsai
Attorneys for Southwest Regional Council
of Carpenters

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

DEPARTMENT OF TRANSPORTATION
DISTRICT 7 – Office of Regional Planning
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 897-0475
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Making Conservation
a California Way of Life.

March 22, 2021

Lisa Frank
City of Burbank, Community Development Department
150 North Third Street
Burbank, CA 91502

RE: Burbank Housing Element Update and
Associated General Plan Updates –
Recirculated Notice of Preparation of an
Environmental Impact Report (NOP)
SCH # 2021020393
GTS # 07-LA-2021-03528
Vic. LA-5/PM: 29.126

Dear Lisa Frank:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced recirculated NOP. The project involves an update to the City of Burbank's Housing Element for the 2021-2029 planning period, along with minor updates to the Safety and Mobility Elements, and the incorporation of environmental justice goals and objectives to the City of Burbank's 2035 General Plan. The proposed Housing Element Update establishes programs and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community. It will also provide evidence of the City's ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments, and identifies any rezoning needed to reach the required housing capacity. In addition, the project includes updates to the Safety Element triggered under State law by an update to the Housing Element, as well as updates to the Mobility Element to incorporate vehicle miles traveled (VMT) metrics. The NOP has been recirculated because the forthcoming EIR will now analyze the impacts of 10,088 housing units, rather than 8,800 units as originally planned, to account for a 15% buffer for the RHNA. The City of Burbank is the Lead Agency under the California Environmental Quality Act (CEQA).

The project, which spans the entire City of Burbank, intersects with State Route 134 (SR-134) and Interstate 5 (I-5), and is located in close proximity to the United States 101 (US-101). From reviewing the recirculated NOP, Caltrans has the same comments as it did on the original NOP, which are the following:

- For information on determining transportation impacts in terms of VMT on the State Highway System, see the *Technical Advisory on Evaluating Transportation Impacts in CEQA* by the California Governor's Office of Planning and Research (OPR), dated December 2018: http://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf.
- The City can also refer to Caltrans' updated *Vehicle Miles Traveled-Focused Transportation Impact Study Guide* (TISG), dated May 2020 and released on Caltrans' website in July 2020: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf. Caltrans' new TISG is largely based on the OPR 2018 Technical Advisory.

- Caltrans looks forward to reviewing the VMT analysis for this project. As discussed in Caltrans' new TISG, Caltrans strongly recommends undertaking project VMT analysis, significance determination, and potential mitigation in a manner consistent with OPR's Technical Advisory.
- The updated TISG states, "Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and that focuses on multi-modal conflict analysis as well as access management issues." Since releasing the TISG, Caltrans has released interim safety analysis guidance, dated December 2020 and found here, for the City's reference: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-12-22-updated-interim-ldigr-safety-review-guidance-a11y.pdf.
- Caltrans encourages lead agencies to complete traffic safety impact analysis in the California Environmental Quality Act (CEQA) review process so that, through partnerships and collaboration, California can reach zero fatalities and serious injuries by 2050.

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. For TDM options to potentially include in the updated Housing, Safety, or Mobility elements, please refer to:

- 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.

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-2021-03528.

Sincerely,

Miya Edmonson

MIYA EDMONSON
IGR/CEQA Branch Chief
cc: Scott Morgan, State Clearinghouse

South Coast
Air Quality Management District
South Coast AQMD
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SENT VIA E-MAIL: March 25, 2021

lfrank@burbankca.gov
Lisa Frank, Senior Planner
City of Burbank, Community Development Department
150 North Third Street
Burbank, California 91502

Notice of Preparation of a Draft Environmental Impact Report for the Burbank Housing Element Update and Associated General Plan Updates (Proposed Project)

South Coast Air Quality Management District (South Coast AQMD) staff appreciates the opportunity to comment on the above-mentioned document. Our comments are recommendations on the analysis of potential air quality impacts from the Proposed Project that should be included in the Draft Environmental Impact Report (EIR). Please send a copy of the Draft EIR upon its completion and public release directly to South Coast AQMD as copies of the Draft EIR submitted to the State Clearinghouse are not forwarded. **In addition, please send all appendices and technical documents related to the air quality, health risk, and greenhouse gas analyses and electronic versions of all emission calculation spreadsheets, and air quality modeling and health risk assessment input and output files (not PDF files). Any delays in providing all supporting documentation for our review will require additional review time beyond the end of the comment period.**

CEQA Air Quality Analysis

Staff recommends that the Lead Agency use South Coast AQMD's CEQA Air Quality Handbook and website[1] as guidance when preparing the air quality and greenhouse gas analyses. It is also recommended that the Lead Agency use the CalEEMod[2] land use emissions software, which can estimate pollutant emissions from typical land use development and is the only software model maintained by the California Air Pollution Control Officers Association.

South Coast AQMD has developed both regional and localized significance thresholds. South Coast AQMD staff recommends that the Lead Agency quantify criteria pollutant emissions and compare the emissions to South Coast AQMD's CEQA regional pollutant emissions significance thresholds[3] and localized significance thresholds (LSTs)[4] to determine the Proposed Project's air quality impacts. The localized analysis can be conducted by either using the LST screening tables or performing dispersion modeling.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the Proposed Project and all air pollutant sources related to the Proposed Project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of

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[1] South Coast AQMD's CEQA Handbook and other resources for preparing air quality analyses can be found at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.

[2] CalEEMod is available free of charge at: www.caleemod.com.

[3] South Coast AQMD's CEQA regional pollutant emissions significance thresholds can be found at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf.

[4] South Coast AQMD's guidance for performing a localized air quality analysis can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips, and hauling trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers and air pollution control devices), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, such as sources that generate or attract vehicular trips, should be included in the analysis. Furthermore, emissions from the overlapping construction and operational activities should be combined and compared to South Coast AQMD's regional air quality CEQA *operational* thresholds to determine the level of significance.

If the Proposed Project generates diesel emissions from long-term construction or attracts diesel-fueled vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the Lead Agency perform a mobile source health risk assessment[5].

The South Coast AQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*[6] includes suggested policies that local governments can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health. It is recommended that the Lead Agency review this Guidance Document as a tool when making local planning and land use decisions.

Mitigation Measures

In the event that the Proposed Project results in significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize these impacts. Any impacts resulting from mitigation measures must also be analyzed. Several resources to assist the Lead Agency with identifying potential mitigation measures for the Proposed Project include South Coast AQMD's CEQA Air Quality Handbook[1], South Coast AQMD's Mitigation Monitoring and Reporting Plan for the 2016 Air Quality Management Plan[7], and Southern California Association of Government's Mitigation Monitoring and Reporting Plan for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy[8].

South Coast AQMD staff is available to work with the Lead Agency to ensure that air quality, greenhouse gas, and health risk impacts from the Proposed Project are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at lsun@aqmd.gov.

Sincerely,

Lijin Sun

Lijin Sun, J.D.
Program Supervisor, CEQA IGR
Planning, Rule Development & Area Sources

LS
LAC210325-01
Control Number

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[5] South Coast AQMD's guidance for performing a mobile source health risk assessment can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis.

[6] South Coast AQMD. 2005. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*. Available at: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf.

[7] South Coast AQMD's 2016 Air Quality Management Plan can be found at: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2017/2017-mar3-035.pdf (starting on page 86).

[8] Southern California Association of Governments' 2020-2045 RTP/SCS can be found at: https://www.connectsocal.org/Documents/PEIR/certified/Exhibit-A_ConnectSoCal_PEIR.pdf.

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SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
T: (213) 236-1800
www.scag.ca.gov

April 15, 2021

Ms. Lisa Frank, Senior Planner
City of Burbank, Community Development Department
150 North Third Street
Burbank, California 91502
Phone: (818) 238-5250
E-mail: lfrank@burbankca.gov

RE: SCAG Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Burbank Housing Element Update [SCAG NO. IGR10359]

Dear Ms. Frank,

Thank you for submitting the Notice of Preparation of a Draft Environmental Impact Report for the Burbank Housing Element Update ("proposed project") to the Southern California Association of Governments (SCAG) for review and comment. SCAG is responsible for providing informational resources to regionally significant plans, projects, and programs per the California Environmental Quality Act (CEQA) to facilitate the consistency of these projects with SCAG's adopted regional plans, to be determined by the lead agencies.[1]

Pursuant to Senate Bill (SB) 375, SCAG is the designated Regional Transportation Planning Agency under state law and is responsible for preparation of the Regional Transportation Plan (RTP) including the Sustainable Communities Strategy (SCS). SCAG's feedback is intended to assist local jurisdictions and project proponents to implement projects that have the potential to contribute to attainment of Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) goals and align with RTP/SCS policies. Finally, SCAG is also the authorized regional agency for Inter-Governmental Review (IGR) of programs proposed for Federal financial assistance and direct Federal development activities, pursuant to Presidential Executive Order 12372.

SCAG staff has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Burbank Housing Element Update in Los Angeles County. The proposed project includes updates to the Housing Element for the 2021-2029 planning period, minor updates to the Safety and Mobility Elements, and incorporates environmental justice goals, policies, and objectives into the City's *Burbank2035* General Plan.

When available, please email environmental documentation to *IGR@scag.ca.gov* providing, at a minimum, the full public comment period for review.

If you have any questions regarding the attached comments, please contact the Inter-Governmental Review (IGR) Program, attn.: Anita Au, Senior Regional Planner, at (213) 236-1874 or IGR@scag.ca.gov. Thank you.

Sincerely,

Rongsheng Luo
Acting Manager, Compliance and Performance Monitoring

---

[1] Lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the 2020 RTP/SCS (Connect SoCal) for the purpose of determining consistency for CEQA.

COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE BURBANK HOUSING ELEMENT UPDATE [SCAG NO. IGR10359]

CONSISTENCY WITH CONNECT SOCAL

SCAG provides informational resources to facilitate the consistency of the proposed project with the adopted 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). For the purpose of determining consistency with CEQA, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with Connect SoCal.

CONNECT SOCAL GOALS

The SCAG Regional Council fully adopted Connect SoCal in September 2020. Connect SoCal, also known as the 2020 – 2045 RTP/SCS, builds upon and expands land use and transportation strategies established over several planning cycles to increase mobility options and achieve a more sustainable growth pattern. The long-range visioning plan balances future mobility and housing needs with goals for the environment, the regional economy, social equity and environmental justice, and public health. The goals included in Connect SoCal may be pertinent to the proposed project. These goals are meant to provide guidance for considering the proposed project. Among the relevant goals of Connect SoCal are the following:

SCAG CONNECT SOCAL GOALS	
Goal #1:	*Encourage regional economic prosperity and global competitiveness*
Goal #2:	*Improve mobility, accessibility, reliability and travel safety for people and goods*
Goal #3:	*Enhance the preservation, security, and resilience of the regional transportation system*
Goal #4:	*Increase person and goods movement and travel choices within the transportation system*
Goal #5:	*Reduce greenhouse gas emissions and improve air quality*
Goal #6:	*Support healthy and equitable communities*
Goal #7:	*Adapt to a changing climate and support an integrated regional development pattern and transportation network*
Goal #8:	*Leverage new transportation technologies and data-driven solutions that result in more efficient travel*
Goal #9:	*Encourage development of diverse housing types in areas that are supported by multiple transportation options*
Goal #10:	*Promote conservation of natural and agricultural lands and restoration of habitats*

For ease of review, we encourage the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the goals and supportive analysis in a table format. Suggested format is as follows:

SCAG CONNECT SOCAL GOALS		
Goal		Analysis
Goal #1:	*Encourage regional economic prosperity and global competitiveness*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
Goal #2:	*Improve mobility, accessibility, reliability and travel safety for people and goods*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
etc.		etc.

Connect SoCal Strategies

To achieve the goals of Connect SoCal, a wide range of land use and transportation strategies are included in the accompanying twenty (20) technical reports. To view Connect SoCal and the accompanying technical reports, please visit the Connect SoCal webpage. Connect SoCal builds upon the progress from previous RTP/SCS cycles and continues to focus on integrated, coordinated, and balanced planning for land use and transportation that helps the SCAG region strive towards a more sustainable region, while meeting statutory requirements pertinent to RTP/SCSs. These strategies within the regional context are provided as guidance for lead agencies such as local jurisdictions when the proposed project is under consideration.

DEMOGRAPHICS AND GROWTH FORECASTS

A key, formative step in projecting future population, households, and employment through 2045 for Connect SoCal was the generation of a forecast of regional and county level growth in collaboration with expert demographers and economists on Southern California. From there, jurisdictional level forecasts were ground-truthed by subregions and local agencies, which helped SCAG identify opportunities and barriers to future development. This forecast helps the region understand, in a very general sense, where we are expected to grow, and allows SCAG to focus attention on areas that are experiencing change and may have increased transportation needs. After a year-long engagement effort with all 197 jurisdictions one-on-one, 82 percent of SCAG's 197 jurisdictions provided feedback on the forecast of future growth for Connect SoCal. SCAG also sought feedback on potential sustainable growth strategies from a broad range of stakeholder groups – including local jurisdictions, county transportation commissions, other partner agencies, industry groups, community-based organizations, and the general public. Connect SoCal utilizes a bottom-up approach in that total projected growth for each jurisdiction reflects feedback received from jurisdiction staff, including city managers, community development/planning directors, and local staff. Growth at the neighborhood level (i.e., transportation analysis zone (TAZ) reflects entitled projects and adheres to current general and specific plan maximum densities as conveyed by jurisdictions (except in cases where entitled projects and development agreements exceed these capacities as calculated by SCAG). Neighborhood level growth projections also feature strategies that help to reduce greenhouse gas emissions (GHG) from automobiles and light trucks to achieve Southern California's GHG reduction target, approved by the California Air Resources Board (CARB) in accordance with state planning law. Connect SoCal's Forecasted Development Pattern is utilized for long range modeling purposes and does not supersede actions taken by elected bodies on future development, including entitlements and development agreements. SCAG does not have the authority to implement the plan -- neither through decisions about what type of development is built where, nor what transportation projects are ultimately built, as Connect SoCal is adopted at the jurisdictional level. Achieving a sustained regional outcome depends upon informed and intentional local action. To access jurisdictional level growth estimates and forecasts for years 2016 and 2045, please refer to the Connect SoCal Demographics and Growth Forecast Technical Report. The growth forecasts for the region and applicable jurisdictions are below.

	Adopted SCAG Region Wide Forecasts				**Adopted City of Burbank Forecasts**			
	Year 2020	**Year 2030**	**Year 2035**	**Year 2045**	**Year 2020**	**Year 2030**	**Year 2035**	**Year 2045**
Population	19,517,731	20,821,171	21,443,006	22,503,899	106,026	109,539	111,459	115,430
Households	6,333,458	6,902,821	7,170,110	7,633,451	42,764	45,219	46,370	48,640
Employment	8,695,427	9,303,627	9,566,384	10,048,822	116,547	128,658	134,780	138,711

MITIGATION MEASURES

SCAG staff recommends that you review the Final Program Environmental Impact Report (Final PEIR) for Connect SoCal for guidance, as appropriate. SCAG's Regional Council certified the PEIR and adopted the associated Findings of Fact and a Statement of Overriding Considerations (FOF/SOC) and Mitigation Monitoring and Reporting Program (MMRP) on May 7, 2020 and also adopted a PEIR Addendum and amended the MMRP on September 3, 2020 (please see the PEIR webpage and scroll to the bottom of the page for the PEIR Addendum). The PEIR includes a list of project-level performance standards-based mitigation measures that may be considered for adoption and implementation by lead, responsible, or trustee agencies in the region, as applicable and feasible. Project-level mitigation measures are within responsibility, authority, and/or jurisdiction of project-implementing agency or other public agency serving as lead agency under CEQA in subsequent project- and site- specific design, CEQA review, and decision-making processes, to meet the performance standards for each of the CEQA resource categories.

REGIONAL HOUSING NEEDS ALLOCATION

On March 4, 2021 SCAG's Regional Council adopted the 6th cycle Final Regional Housing Needs Assessment (RHNA) Allocation Plan which covers the planning period October 2021 through October 2029. The 6th cycle Final RHNA allocation for the applicable jurisdiction is below.

SCAG 6th Cycle Final RHNA Allocation for City of Burbank	
Very low income	2,553
Low income	1,418
Moderate income	1,409
Above moderate income	3,392
Total RHNA Allocation	8,772

Sixth cycle housing elements are due to the California Department of Housing and Community Development (HCD) by October 15, 2021. SCAG encourages jurisdictions to prepare the draft housing element in advance of the due date to ensure adequate time to address HCD comments and adopt a final housing element. Jurisdictions that do not have a compliant housing element may be ineligible for certain State funding and grant opportunities and may be at risk for legal action from stakeholders or HCD.

Appendix B

Initial Study

Burbank Housing and Safety Element Update

Initial Study

State Clearinghouse #2021020393

prepared by

City of Burbank
Community Development Department
150 North Third Street
Burbank, California 91502
Contact: Lisa Frank, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012

January 2022

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Burbank Housing and Safety Element Update

Initial Study

State Clearinghouse #2021020393

prepared by

City of Burbank
Community Development Department
150 North Third Street
Burbank, California 91502
Contact: Lisa Frank, Senior Planner

prepared with the assistance of

Rincon Consultants, Inc.
250 East 1st Street, Suite 1400
Los Angeles, California 90012

January 2022

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This report prepared on 50% recycled paper with 50% post-consumer content.

Table of Contents

Tables

Figures

Initial Study

1. Project Title

Burbank Housing and Safety Element Update[1]

2. Lead Agency Name and Address

City of Burbank - Community Development Department
150 North Third Street
Burbank, California 91502

3. Contact Person and Phone Number

Lisa Frank, Senior Planner
(818) 238-5250
lfrank@burbankca.gov

4. Project Location

The Burbank Housing and Safety Element Update (hereafter referred to as "Housing and Safety Element Update" or "proposed Project") would apply to the entire geographic area located within the boundaries of the City of Burbank (City), which encompasses 17.1 square miles. Burbank is located in the central portion of Los Angeles County, approximately 12 miles north of downtown Los Angeles. The City is generally bounded by the Verdugo Mountains to the northeast, the City of Glendale to the southeast, the City of Los Angeles to the south and west. The City is bisected by the Interstate 5 (I-5) Freeway and the Metrolink Commuter Rail. Figure 1 and Figure 2, below, illustrate the location of the City in a regional and local context.

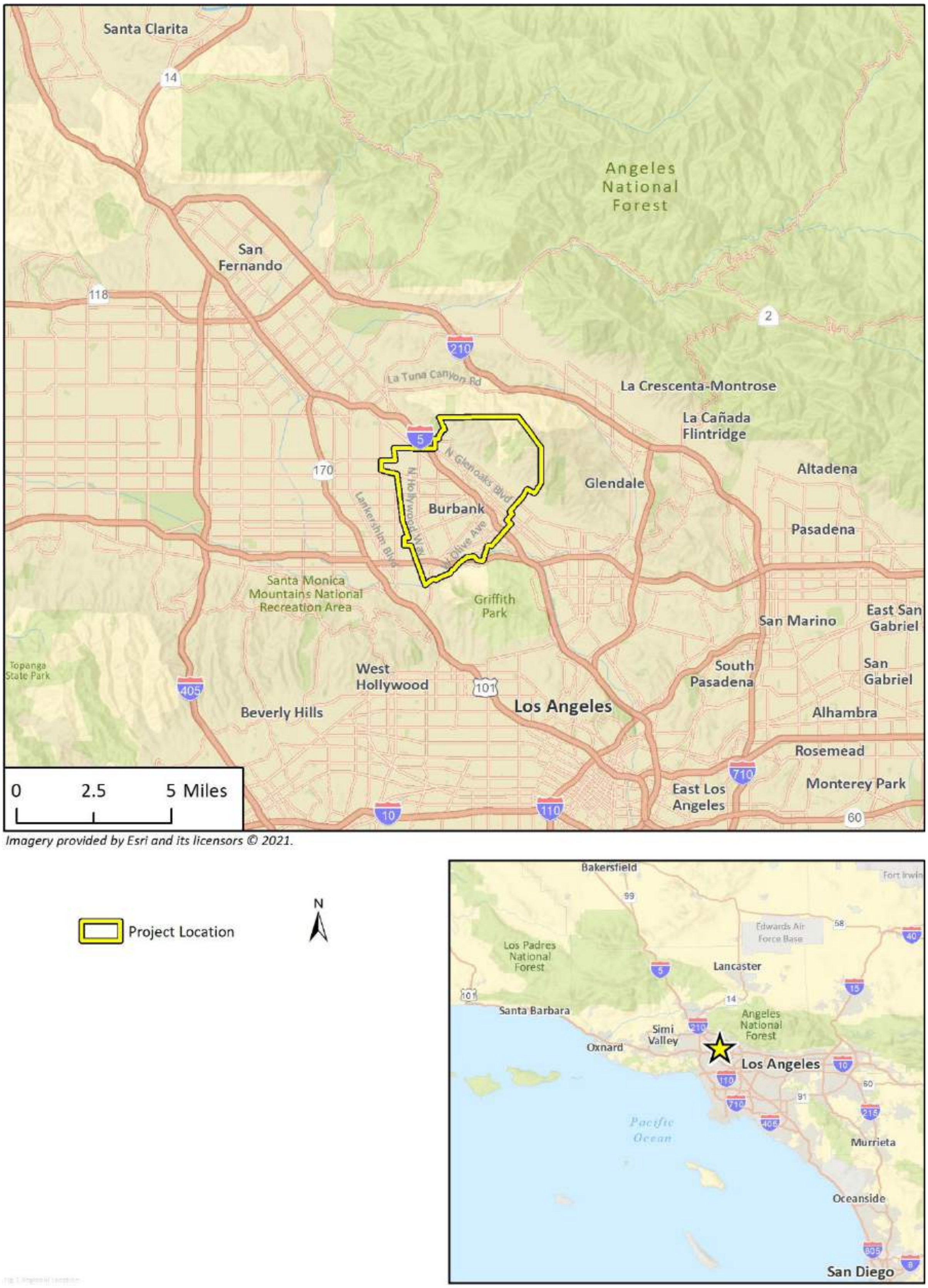
5. Project Sponsor's Name and Address

City of Burbank - Community Development Department
150 North Third Street
Burbank, California 91502

---

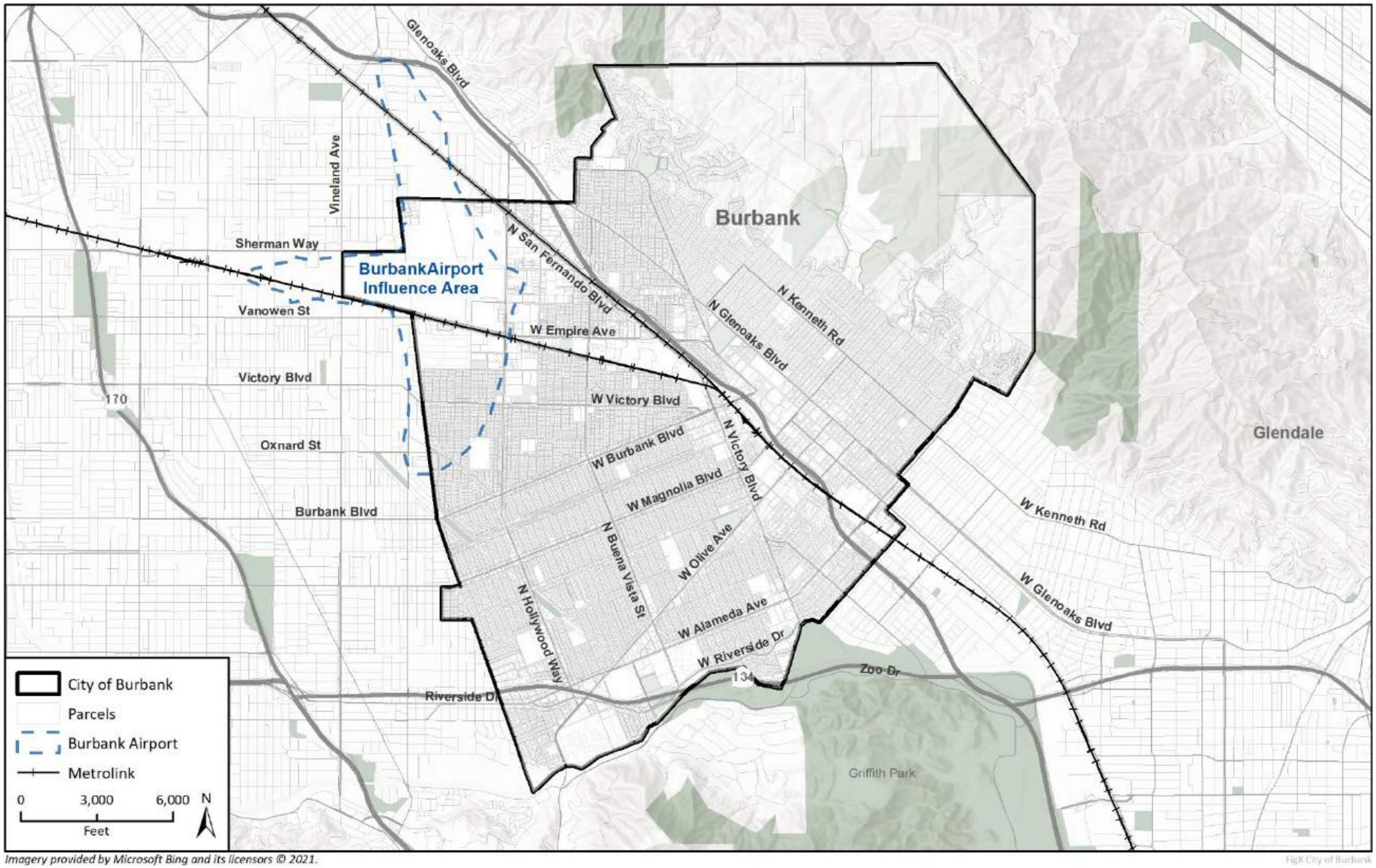
[1] The proposed Project will also include updates to the Safety Element and the various other elements of the General Plan to incorporate the goals, policies and objectives related to Environmental Justice. These updates are required for compliance with State law and to ensure consistency with the updated Housing Element. The title of the proposed Project is "Burbank Housing and Safety Element Update."

Figure 1 Regional Location



Imagery provided by Esri and its licensors © 2021.

Figure 2 Project Location



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6. General Plan Designations

The Burbank2035 General Plan includes a variety of land use designations including: Low, Medium, and High Density Residential; Corridor and Regional Commercial; four specific commercial areas and two commercial/industrial areas; Open Space; Institutional; and Airport. Land uses in Burbank's various neighborhoods and commercial areas include single-family and multi-family residential housing, mixed-use development, public spaces like parks and playgrounds, and some industrial land uses.

7. Zoning

The Zoning Code includes various zones that correspond to the GP land uses, including residential, commercial, media district, business, auto dealership, industrial, airport, railroad, cemetery, and open space.

8. Description of Project

The proposed Project would involve an update to the Housing Element of the City's Burbank2035 General Plan for the 2021-2029 planning period, along with minor updates to the Safety and Mobility Elements, and incorporation of environmental justice goals, policies and objectives into the Burbank2035 General Plan. The proposed Housing and Safety Element Update establishes programs, policies and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community; provides evidence of the City's ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG), and identifies any rezoning program needed to reach the required housing capacity. The Safety Element update is triggered by various new provisions of state law, the Mobility Element update would incorporate VMT (vehicle miles traveled) metrics per SB 743, and the environmental justice policies would be added pursuant to the requirements of SB 1000.

Housing Element Update

The Housing Element is comprised of the following major components:

- Review of effectiveness of the existing Housing Element
- Assessment of existing and projected housing needs
- Identification of resources – financial, land, administrative
- Evaluation of constraints to housing
- Housing Plan – goals, policies, and programs

The Housing Element Update will provide a framework for accommodating new housing at all levels of affordability that is within access to transit, Downtown jobs, services, and open spaces. New housing units may occur anywhere in the City where residential uses are permitted, as well as in areas that may be rezoned in the future to allow for multi-family residential and mixed use of adequate density to meet affordability targets.

RHNA Allocation

SCAG has allocated the region's 1,341,827 housing unit growth needs to each city and county through a process called the Regional Housing Needs Assessment (RHNA). As shown in Table 1, Burbank's draft RHNA for the 2021-2029 planning period (6th RHNA cycle) is 8,772 housing units, distributed among the four income categories (HCD 2020).

Table 1 RHNA Percentage of Income Distribution

Income Level	Percent of Area Median Income (AMI)	Units	Percent
Very Low	0-50%	2,553	29%
Low	51-80%	1,418	16%
Moderate	81-120%	1,409	16%
Above Moderate	>120%	3,392	39%
Total	–	**8,772**	**100%**
Source: SCAG 2021			

The RHNA represents the minimum number of housing units that the City is required to plan for in its housing element by providing "adequate sites" through the Burbank2035 General Plan and zoning.

Table 2 shows the estimated units for projects that are entitled and pending entitlement, the net housing units for the various opportunity sites based on the General Plan, the number of accessory dwelling units that can be expected over the course of the planning period, and the number of units that can be expected through the City's committed assistance program. As shown in the table, the City would fall short of the RHNA allocation by 2,391 units.

Table 2 Estimated Net Housing Units for the City of Burbank

		Income Distribution			
Sites/Projects	**Total Net Units**	**Very Low**	**Low**	**Moderate**	**Above Moderate**
2021 – 2029 RHNA Targets	**8,772**	**2,553**	**1,418**	**1,409**	**3,392**
Entitled Projects	935	7	6	83	838
Pending Entitlement	1,245	109	21	0	1,116
Opportunity Sites (Zoning in place)	2,591	944	354	625	668
Accessory Dwelling Units (ADUs)[1]	1,600	384	704	32	480
Committed Assistance[2]	10	10	0	0	0
Total Site Capacity	**6,381**		**2,539**	**740**	**3,102**
RHNA Surplus/(Shortfall)	**(2,391)**		**(1,432)**	**(669)**	**(290)**

[1] ADUs are small backyard units that are either attached or detached from a single-family home.

[2] Committed Assistance units are units that the City has provided a legally enforceable agreement to provide. This is through an ongoing partnership with the Burbank Housing Corporation. See the Housing Element for further discussion.

To make up for this shortfall of 2,391 units, the Housing Element includes a housing program to amend the General Plan and adopt the Downtown Transit-Oriented-Development Specific Plan (Downtown TOD) and the Golden State Specific Plan (GSSP) (see Figure 3). Adoption of these Specific Plans will provide the necessary zoning, development standards, and processing procedures to facilitate the production of housing required to accommodate the City's housing needs during the Housing Element 2021-2029 planning period. The zone changes required by these Specific Plans will be adopted in 2022-2024. Table 3 shows the number of units expected from the rezoning of the Specific Plan areas. See Figure 3 for the locations of the Specific Plan locations and the rezone areas. The City would exceed the RHNA requirement by 1,270 units with the rezoning of the Specific Plan areas. The State requires jurisdictions to create a sufficient buffer in the Housing Element sites inventory beyond that required by the RHNA to ensure that adequate site capacity exists throughout the eight-year planning period. With the inclusion of the Specific Plan units, the City will exceed the RHNA allocation by 14 percent.

Table 3 Projected Specific Plan Units

Specific Plan	Total Net Units
Downtown TOD sites	871
Golden State Specific Plan sites	2,690
Total	**3,561**
Existing GP Units (from Table 2)	6,381
New Total with Specific Plans	**9,942**
RHNA Surplus/(Shortfall)	**1,270**

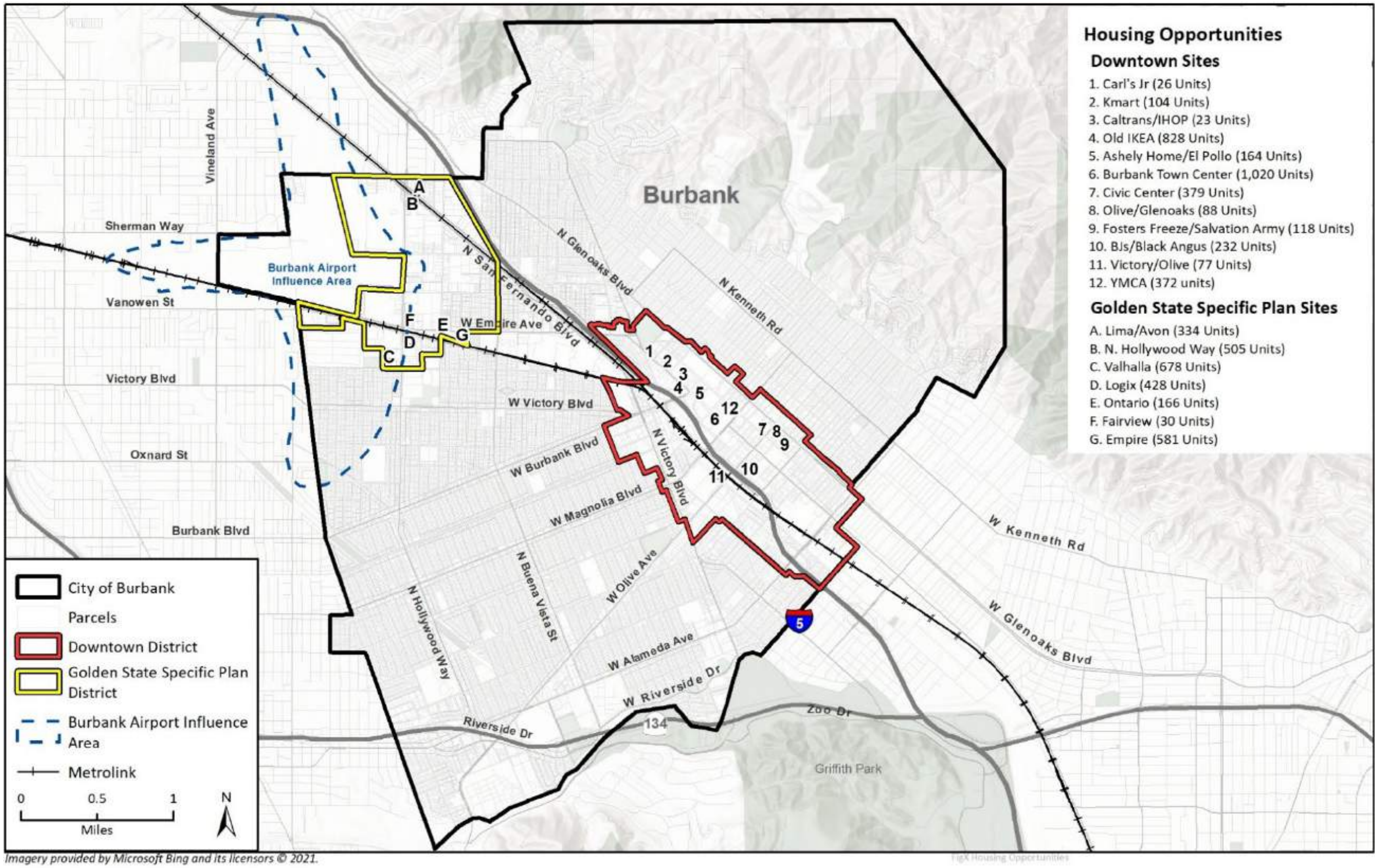
Rezoning

The opportunity sites include 19 locations that have the greatest potential to accommodate the RHNA's housing growth allocated for Burbank. Twelve of the opportunity sites are located in the proposed Downtown TOD Specific Plan area and seven sites are located in the proposed Golden State Specific Plan area. The locations of these sites of shown in Figure 3.

Safety Element Update

The Safety Element Update will ensure consistency with the Housing Element Update and will comply with recent State legislation and guidelines (including Assembly Bill 162, Senate Bill 1241, Senate Bill 99, Assembly Bill 747, Senate Bill 1035 and Senate Bill 379). Amendments incorporate data and maps, address vulnerability to climate change; incorporate policies and programs from the City's Hazard Mitigation Plan and the Greenhouse Gas Reduction Plan, as well as partial or full integration of other City documents and programs (including but not limited to: Ready Burbank and the Emergency Survival Program). Key areas of the Burbank Safety Element to be updated include flooding and fire hazards as well as emergency response and preparedness, especially as they relate to the City's projected climate change exposure, and vulnerability. The Safety Element amendments will be submitted to the California State Board of Forestry and Fire Protection (CalFire) for review. As mandated under Senate Bill 1000 (SB 1000), the Safety Element Update would consider strategies to reduce pollution exposure, promote public facilities, promote food access, promote safe and sanitary homes, promote physical activity, reduce unique or compounded health risks, promote civic engagement, and prioritize the needs of DACs.

Figure 3 Specific Plan and Housing Opportunity Locations



Housing Opportunities

Downtown Sites

1. Carl's Jr (26 Units)
2. Kmart (104 Units)
3. Caltrans/IHOP (23 Units)
4. Old IKEA (828 Units)
5. Ashely Home/El Pollo (164 Units)
6. Burbank Town Center (1,020 Units)
7. Civic Center (379 Units)
8. Olive/Glenoaks (88 Units)
9. Fosters Freeze/Salvation Army (118 Units)
10. BJs/Black Angus (232 Units)
11. Victory/Olive (77 Units)
12. YMCA (372 units)

Golden State Specific Plan Sites

A. Lima/Avon (334 Units)
B. N. Hollywood Way (505 Units)
C. Valhalla (678 Units)
D. Logix (428 Units)
E. Ontario (166 Units)
F. Fairview (30 Units)
G. Empire (581 Units)

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Environmental Justice Update

SB 1000 states that revisions or adoption of two or more elements of a general plan on or after January 1, 2018 trigger a requirement to “adopt or review the Environmental Justice Element, or the environmental justice goals, policies, and objectives in other elements.” Environmental justice goals, policies, and objectives must aim to reduce health risks to disadvantaged communities (DACs), promote civil engagement, and prioritize the needs of these communities. These updates focus on the inclusion of disadvantaged communities in decision making procedures as well as increasing protections for these communities. Figure 4 provided below, displays CalEnviroScreen results for Burbank. There are several designated DACs identified in central, northwest, and southeast Burbank. These seven census tracts have overall scores that meet or exceed the minimum criteria for DAC designation based on pollution burden and population characteristics.

9. Required Approvals

The Project would require the following discretionary approvals:

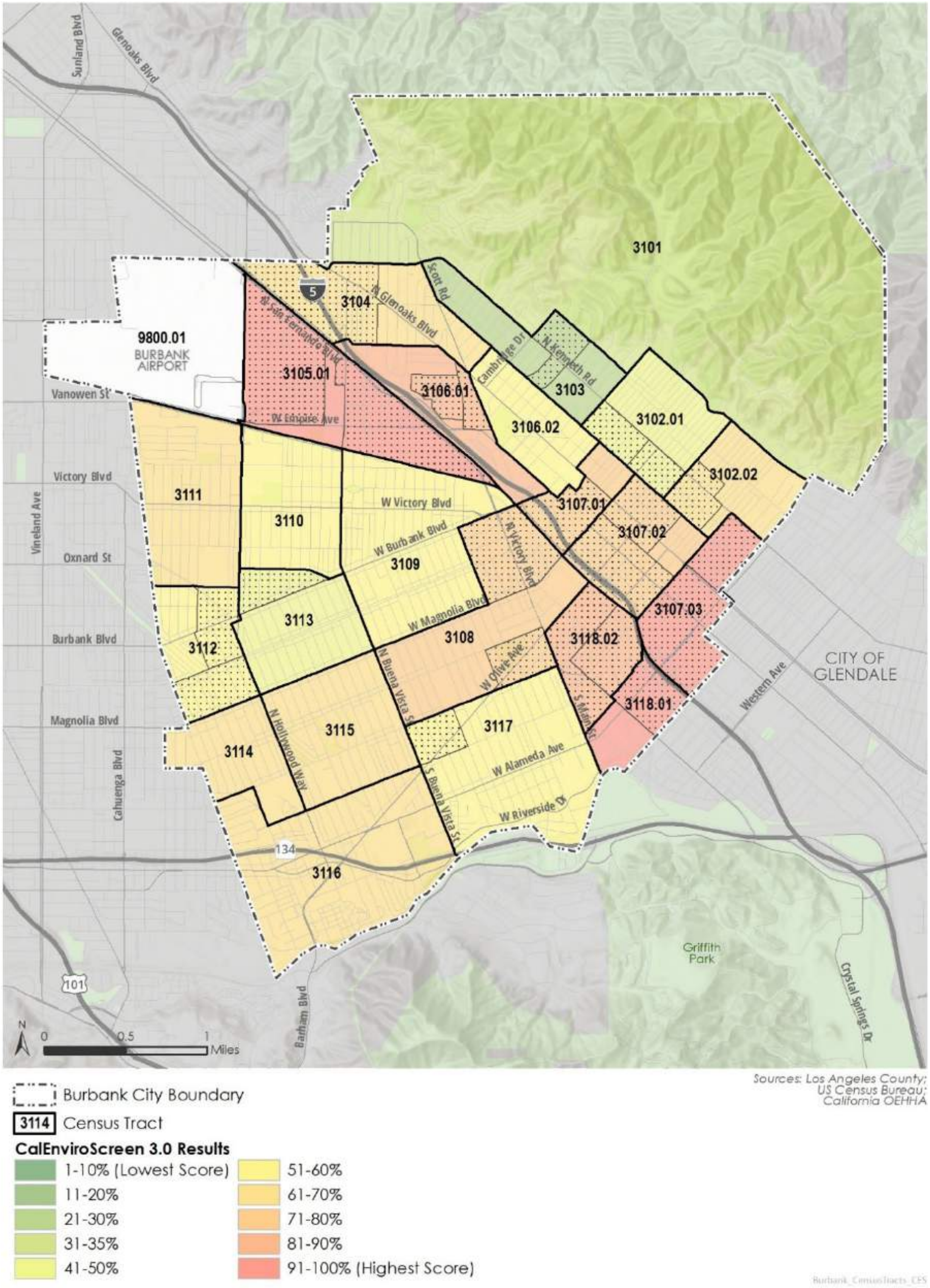
- Certification of this EIR prepared for the proposed Project
- Adoption of the Housing Element Update for the 2021-2029 planning period
- Adoption of the General Plan Land Use Map to re-designate land uses for certain selected housing sites
- Adoption of updates to the Safety Element
- Adoption of updates to other General Plan elements to incorporate environmental justice goals, objectives and policies
- Adoption of updates to the Mobility Element to incorporate VMT.
- Rezoning of opportunity sites within the Specific Plan areas

After adoption, by the City Council, the updated Housing Element will be submitted to the California Department of Housing and Community Development (HCD) for certification. The Safety Element updates will be submitted to CalFire for their review and approval.

10. Have California Native American Tribes Traditionally and Culturally Affiliated with the Project Area Requested Consultation Pursuant to Public Resources Code Section 21080.3.1?

As discussed in Section 18, *Tribal Cultural Resources*, the proposed Project could potentially result in the disturbance of intact tribal cultural resources. Native American consultation between the City of Burbank and Native American tribes under Assembly Bill (AB) 52 is underway.

Figure 4 CalEnviroScreen – Disadvantaged Communities



Sources: Los Angeles County; US Census Bureau; California OEHHA

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Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

Based on this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions to the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

■ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potential significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Federico G. Ramirez	1/20/2022
Signature	Date
Federico G. Ramirez	Assistant Community Development Director – Planning Division

Environmental Checklist

1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	☐	☐	■	☐
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	■
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	■	☐
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

a. Would the project have a substantial adverse effect on a scenic vista?

Scenic views generally refer to visual access to, or the visibility of, a particular natural or man-made visual resource from a given vantage point or corridor. Focal views focus on a particular object, scene, setting, or feature of visual interest. Panoramic views, or vistas, provide visual access to a large geographic area for which the field of view can be wide and extend into the distance. Panoramic views are usually associated with vantage points looking out over urban or natural areas that provide a geographic orientation and view not commonly available. Examples of panoramic views might include an urban skyline, a valley, a mountain range, the ocean, or other water bodies. The Burbank2035 General Plan Open Space and Conservation Element defines scenic vistas as viewpoints that provide expansive views of a highly valued landscape for the benefit of the general public (City of Burbank 2013a).

Scenic vistas in Burbank include views of the Verdugo Mountains to the northeast and views of the eastern Santa Monica Mountains to the south. Downslope views from hillside development in the Verdugo Mountains toward the City and the Santa Monica Mountains beyond are also considered to be a valued resource by the City's General Plan. In more urban areas, the character of neighborhoods, architecture, vegetation, and landscaping all provide visual character. Scenic resources in Burbank include public parks and open space, such as Wildwood Canyon Park, Stough Park, Johnny Carson Park, and Brace Canyon Park. The architecture of historic structures, such as Burbank City Hall, the Portal of the Folded Wings Shrine to Aviation in Valhalla Memorial Park, and commercial signs throughout the City, such as the Bob's Big Boy and Safari Inn signs, are also scenic resources that represent aspects of the City's history (City of Burbank 2013a).

Reasonably foreseeable development under the Housing and Safety Element Update would have the potential to affect scenic vistas if new or intensified development blocked the vistas noted above. Potential impacts could include obstructing views of scenic resources such as Verdugo and Santa Monica Mountains or the unique urban or historic structures found throughout urbanized areas of Burbank. However, future project developments would be required to comply with General Plan goals and policies intended to protect scenic vistas and visual resources. These include the following goal and policies under the Land Use Element and Open Space and Conservation Element:

Goal 8 Low Density Residential Land Use

Policy 8.8 Ensure that new development is compatible with the topography and geology of the hillside area and is incorporated into the natural setting.

Policy 8.9 Require that new development or expansion of existing homes be subject to discretionary review when a possibility exists that the project may affect the character of the hillside area.

Policy 8.10 Consider and address the p preservation of scenic views in the hillside areas.

Goal 7 Visual and Aesthetic Resources

Policy 7.2 Minimize the visual intrusion of development in the hillside area

In addition, development under the proposed Project would primarily occur in already developed and urbanized areas of the City where scenic vistas are not present and would not be affected. Thus, potential development under the Housing Element Update would not result in substantial adverse effects on scenic vistas, and the Safety Element and Environmental Justice updates would not result in development that would create aesthetic impacts. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

The California State Scenic Highway System Map indicates that no existing or proposed State scenic highways are located in Burbank (Caltrans 2020). The nearest designated scenic highway is State Route 210, located approximately 1.5 miles northeast of the City. Therefore, the updates associated with the Housing Element, Safety Element and Environmental Justice under the proposed Project would not result in substantial damage to scenic resources in a State scenic highway. No impact would occur and further analysis of this issue in an EIR is not warranted.

NO IMPACT

c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

The proposed Housing Element Update would facilitate the development of up to 10,456 new housing units in Burbank, primarily in areas with access to transit, Downtown jobs, services, and open spaces. This would allow for higher densities than what currently exists in some areas. This could alter the visual character of portions of the City, including changes to building heights and massing. However, reasonably foreseeable development under the proposed Project would be subject to the City's development standards, such as floor area ratio (FAR), building heights and setbacks, and transitional height requirements for properties abutting residential zones. Furthermore, the multiple Specific Plans throughout Burbank include objective design standards that enhance streetscapes, buildings, and public places. Compliance with existing standards and plans would be required for all future housing developers. Therefore, reasonably foreseeable developments would be consistent with applicable zoning and other regulations and the overall pattern of development in the City would be generally maintained. Further, the Safety Element and Environmental Justice updates would not result in development that would create aesthetic impacts. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

Lighting associated with reasonably foreseeable development under the Housing and Safety Element Update (security lighting, parking lot lighting, ornamental lighting, pedestrian scale lights, lighting from ground floor storefronts and signs) would increase overall lighting levels.

However, the City is urbanized and areas where new housing is anticipated primarily already have high ambient levels of nighttime lighting; thus, additional lighting from new housing development would be incremental. Furthermore, reasonably foreseeable development under the proposed Project would be required to comply with the following lighting provisions of the Burbank Municipal Code (BMC) to reduce potential impacts from light:

- Chapter 10.1.628.W(2). Outdoor lighting fixtures must be positioned and directed so as not to shine or cause glare onto adjacent properties or public rights-of-way.
- Chapter 10.1.628.W(3). Free-standing lighting fixtures must be no taller than eight (8) feet as measured from the abutting ground surface or floor level.
- Chapter 10.1.1153.A. Building Elevations facing a residential zone with 50 percent or more of the building surface in glass shall be limited to a maximum of 15 percent reflectivity for those materials. Building elevations facing a residential zone with less than 50 percent of surface glass shall be limited to a maximum of 20 percent reflectivity for those materials.
- Glare is a common phenomenon throughout Burbank primarily due to the occurrence of a high number of days per year with direct sunlight and the urbanized nature of the City. Daytime glare can result from sunlight reflecting off glass, other structural fixtures of buildings, and windshields of parked and moving vehicles within the roadways in the City. Reasonably

foreseeable development under the proposed Project would be required to comply with BMC standards and regulations for lighting and glare affecting sensitive residential uses.

Light and glare associated with development would incrementally increase daytime and nighttime light and glare in portions of Burbank. However, due to the urbanized nature of the City where high levels of light and glare are already present and compliance with applicable regulations in the BMC, impacts would be less than significant; and the Safety Element and Environmental Justice updates would not result in development that would create aesthetic impacts. Further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	■
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	■
d. Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	■

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

b. Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

The California Important Farmland Finder Map indicates that none of the land in the City is mapped as Important Farmland (California Department of Conservation [DOC] 2020). Likewise, according to the DOC, there are no Williamson Act contracts in the City (DOC 2016). Burbank's Zoning Map indicates that no areas are currently zoned for agricultural use. The Housing Element, Safety Element and Environmental Justice updates under the proposed Project would have no effect on the conversion of farmland to non-agricultural uses. No impact would occur and further analysis of this issue in an EIR is not warranted.

NO IMPACT

c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*

d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*

Burbank is urbanized with no forest land in the majority of the City, and no land in the City is zoned for forest land or timberland. The northeastern part of the City is located along the foothills of the Verdugo Mountains which is designated open space that includes forest lands. However, reasonably foreseeable development under the Housing Element Update would be primarily concentrated in urbanized areas of the City, and the Safety Element and Environmental Justice updates would not result in development that would create impacts to forest or timberland resources. Therefore, no impact to forest lands would occur and further analysis of this issue in an EIR is not warranted.

NO IMPACT

e. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

As discussed under *Impact a.* through *d.*, there would be no impacts associated with agricultural lands, and potential impacts associated with forest lands would be less than significant. The Housing Element, Safety Element and Environmental Justice updates under the proposed Project would not involve other changes in the existing environment that could result in the conversion of Farmland to non-agricultural use or the conversion of forest land to non-forest use. Therefore, no impact would occur and further analysis of this issue in an EIR is not warranted.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	■	☐	☐	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	■	☐	☐	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	■	☐	☐	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

b. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

Burbank is located in the South Coast Air Basin (the Basin), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The local air quality management agency is required to monitor air pollutant levels to ensure that applicable air quality standards are met, and, if they are not met, to develop strategies to meet the standards. The SCAQMD has adopted an Air Quality Management Plan that provides a strategy for the attainment of State and Federal air quality standards. Emissions generated by reasonably foreseeable development under the proposed Housing and Safety Element Update would include temporary construction emissions and long-term operational emissions.

Construction activities such as the operation of construction vehicles and equipment over unpaved areas, grading, trenching, and disturbance of stockpiled soils have the potential to generate fugitive dust (PM_{10}) through the exposure of soil to wind erosion and dust entrainment. In addition, exhaust emissions associated with heavy construction equipment would potentially degrade air quality. Construction emissions from individual housing developments could potentially exceed SCAQMD significance thresholds.

Long-term emissions associated with operation of reasonably foreseeable housing developments would include emissions from vehicle trips, natural gas and electricity use, landscape maintenance equipment, and consumer products and architectural coating. Emissions associated with individual housing developments could exceed SCAQMD significance thresholds. Long-term vehicular emissions could also result in elevated concentrations of carbon monoxide (CO) at congested intersections in the City.

Certain population groups, such as children, the elderly, and people with health problems, are considered particularly sensitive to air pollution. Sensitive receptors include health care facilities, retirement homes, school and playground facilities, and residential areas.

Impacts related to both temporary construction-related air pollutant emissions and long-term emissions under the Housing and Safety Element Update may be potentially significant and will be analyzed further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The occurrence and severity of potential odor impacts depends on a number of factors, including the nature, frequency, and intensity of the source; the wind speeds and direction; and the sensitivity of the receiving location, each contribute to the intensity of the impact. Although offensive odors seldom cause physical harm, they can be annoying and cause distress among the public and generate citizen complaints.

Construction activities associated with reasonably foreseeable development under the Housing and Safety Element Update may produce temporary odors. Potential odors produced during construction would be attributable to concentrations of unburned hydrocarbons from tailpipes of construction equipment, and architectural coatings. Such odors would disperse rapidly from the individual construction sites, generally occur at magnitudes that would not affect substantial numbers of people and would be limited to the construction period. Furthermore, construction would be required to comply with SCAQMD Rule 402, which regulates nuisance odors. Accordingly, the construction associated with reasonably foreseeable development under the proposed Project would not create objectionable odors affecting a substantial number of people and impacts would be less than significant.

SCAQMD’s *CEQA Air Quality Handbook* (1993) identifies land uses associated with odor complaints as agricultural uses, wastewater treatment plants, chemical and food processing plants, composting, refineries, landfills, dairies, and fiberglass molding. Reasonably foreseeable development under the Housing Element Update would include residential and mixed-use developments, which are not major sources of odors and would not create objectionable odors to surrounding sensitive land uses. In addition, the Safety Element and Environmental Justice updates would not result in development that would create odor impacts. Therefore, potential impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

4 Biological Resources

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

a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Special Status Species

Special status species are those plants and animals listed, proposed for listing, or candidates for listing as Threatened or Endangered by the United States Fish and Wildlife Service (USFWS) under the Federal Endangered Species Act (FESA); those considered “Species of Concern” by the USFWS; those listed or candidates for listing as Rare, Threatened, or Endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act (CESA); animals designated as “Fully Protected” by the California Fish and Game Code (CFGC); animals listed as “Species of Special Concern” (SSC) by the CDFW; CDFW Special Plants, specifically those with California Rare Plant Ranks (CRPR) of 1B, 2, 3, and 4 in the CNPS’s Inventory of Rare and Endangered Vascular Plants of California (CNPS 2020); and birds identified as sensitive or watch list species by the Los Angeles County Sensitive Bird Species Working Group (2009).

Burbank contains approximately 732 acres of parks, not including landscape areas such as street medians, parkways, and other green areas throughout the City that provide wildlife habitat (City of Burbank 2013a). A majority of those park acres, approximately 603, are on the edge of the City, near the Verdugo Mountains. Urbanization in the City has substantially reduced the abundance and diversity of biological resources. In addition, Burbank is surrounded by other developed areas in Glendale and Los Angeles.

The Housing and Safety Element Update would prioritize development on infill sites in urbanized areas of the City. Reasonably foreseeable development under the proposed Project would be primarily concentrated on underutilized sites that have been previously developed and disturbed. Given the lack of suitable habitat to support special status species in urbanized and disturbed areas where new housing is to be concentrated, reasonably foreseeable development under the Housing and Safety Element Update would not result in significant adverse impacts to special status species or the habitats that support them. Further analysis of this issue in an EIR is not warranted.

Nesting Birds

While common birds are not designated as special status species, destruction of their eggs, nests, and nestlings is prohibited by Federal and State law. Nesting birds are protected under the CFGC Sections 3503, 3503.5, and 3513 as well as the Migratory Bird Treaty Act (MBTA). Violation of these provisions would be considered a potentially significant impact.

Development under the proposed Project could directly and indirectly affect nesting birds. Construction of reasonably foreseeable development under the proposed Project could occur during the bird nesting season, which is generally from March 1 through August 31 and begins as early as February 1 for raptors. As such, potential construction impacts resulting in vegetation trimming or removal during the nesting season would have the potential to disturb active nests, either directly (e.g., injury, mortality, or disruption of normal nesting behaviors) or indirectly (e.g., construction noise, dust, and vibration from equipment). Therefore, although unlikely, construction activities have the potential to disturb nesting birds and raptors.

The Safety Element and Environmental Justice updates would not result in development that would create impacts to biological resources. Therefore, these components would not result in impacts to special status species or nesting birds. However, impacts to nesting birds and raptors under the Housing Element Update may be potentially significant and will be analyzed further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Plant communities are considered sensitive biological resources if they have limited distributions, high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW maintains a list of sensitive plant communities (CDFW 2020). Although Burbank is urbanized, the communities along the foothills of the Verdugo Mountains are located near a number of sensitive plant communities such as Coast Live Oak and Coastal Mixed Hardwood Alliances (City of Burbank 2013b). In addition, according to the U.S. Fish and Wildlife's National Wetlands Inventory (NWI) there are no riparian habitats or Federally protected wetlands located within the developed areas of the City. However, the Verdugo Mountains contain a number of creeks and streams, classified as riverine wetlands, that flow into freshwater ponds in the foothills (NWI 2020).

Reasonably foreseeable development under the Housing Element Update would occur in urbanized areas of the City, and therefore, would not directly or indirectly impact sensitive natural communities or riparian habitat. In addition, the Safety Element and Environmental Justice updates would not result in development that would create impacts to biological resources. As a result, impacts to sensitive natural communities or riparian habitats would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

In accordance with Section 1602 of the CFGC, the CDFW has jurisdiction over lakes and streambeds (including adjacent riparian resources). CDFW regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake. Under Section 404 of the Clean Water Act (CWA), the United States Army Corps of Engineers (USACE) has authority to regulate activities that discharge dredge or fill material into wetlands or other "waters of the United States" through issuance of a Section 404 Permit. Finally, the Regional Water Quality Control Board (RWQCB) has jurisdiction over "waters of the State" pursuant to the Porter-Cologne Water Quality Control Act and has the responsibility for review of water quality certification per Section 401 of the federal CWA for proposed development projects.

The approximately six-mile long Burbank Western Channel trends north to south through the center of City and flows into the Los Angeles River approximately half a mile south of the City's southern boundary and then out to the Pacific Ocean. The National Wetlands Inventory classifies this system as an intermittent riverine system, with flowing water only part of the year. The system falls under the class of streambed, is seasonally flooded, and is lined with concrete (NWI 2020).

Construction and operation of reasonably foreseeable development under the Housing Element Update would not result in the direct modifications or interruptions of State or Federally protected wetlands, and the Safety Element and Environmental Justice updates would not result in development that would create impacts to biological resources. Therefore, impacts would be less than significant and further analysis in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Wildlife corridors are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as between foraging and denning areas, or they may be regional in nature, allowing movement across the landscape. Some habitat linkages may serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Examples of barriers or impediments to movement include housing and other urban development, roads, fencing, unsuitable habitat, or open areas with little vegetative cover. Regional and local wildlife movements are expected to be concentrated near topographic features that allow convenient passage, including roads, drainages, and ridgelines.

Habitat fragmentation occurs when a proposed action results in a single, unified habitat area being divided into two or more areas in such a way that the division isolates the two new areas from each other. Isolation of habitat occurs when wildlife cannot move freely from one portion of the habitat to another or from one habitat type to another, as in the fragmentation of habitats within and around “checkerboard” residential development. Habitat fragmentation also can occur when a portion of one or more habitats is converted into another habitat, as when annual burning converts scrub habitats to grassland habitats.

Much of the land in Burbank has been converted from open space to various urban uses, resulting in habitat fragmentation. There are no regional wildlife habitat linkages or described wildlife movement in the City outside of the Verdugo Mountains. While there are small fragments of open space and approximately 732 acres of parkland in Burbank it is unlikely for wildlife movement to occur in the remaining 127 acres due to the patchwork of remaining parks, their small size, and existence in a highly urbanized area. Outside of the Verdugo Mountains, Burbank is surrounded by residential and commercial development and its existing urbanized area is not situated to form a link between blocks of intact habitat.

Reasonably foreseeable development under the Housing Element Update would be concentrated in urbanized areas and on sites that have been previously developed and disturbed, and not within the Verdugo Mountains. Development in such areas would not result in substantial impacts to potential local wildlife movement. In addition, the Safety Element and Environmental Justice updates would not result in development that would create impacts to biological resources. Therefore, potential impacts to wildlife corridors or nursery sites due to development under the proposed Project would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Section 7-4-108 of the BMC provides for the protection of landmark trees, trees of outstanding size and beauty, and dedicated trees; and Section 7-4-115 of the BMC states that it is unlawful to remove or destroy trees on public property without approval and permits from the Director of Public Works.

If future development resulting from the implementation of the proposed Housing Element Update includes the removal of trees on City property (including street trees), the plans will be reviewed by the City and required to comply with the tree ordinances. In addition, the Safety Element and Environmental Justice updates would not result in development that would create impacts to biological resources. Therefore, impacts related to potential conflicts with local policies or ordinances would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No adopted local, regional, or State Habitat Conservation Plans or Natural Community Conservation Plans apply to any portion of Burbank (CDFW 2019). Therefore, no impact would occur under the proposed Project and further analysis of this issue is not warranted.

NO IMPACT

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5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	■	☐	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	■	☐	☐	☐
c. Disturb any human remains, including those interred outside of formal cemeteries?	■	☐	☐	☐

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Notable historic structures in Burbank include City Hall and the Portal of the Folded Wings Shrine to Aviation in Valhalla Memorial Park. Burbank's residential, commercial, and industrial neighborhoods also contain numerous examples of historic architectural styles including Craftsman, Colonial, Mediterranean, Prairie, Googie, Art Deco, and Mission Revival. (City of Burbank 2013a) The sites of reasonably foreseeable development under the Housing and Safety Element Update could potentially contain historic structures or resources eligible for listing in the California Register of Historical Resources, the demolition or alteration of which could constitute a significant impact. Therefore, reasonably foreseeable future development under the Housing and Safety Element Update has the potential to impact historical resources and this issue will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Reasonably foreseeable development under the Housing and Safety Element Update would occur primarily in areas that have previously been developed and disturbed. Therefore, it is likely that prior grading, construction, and modern use of the potential housing sites would have either removed or destroyed archaeological resources in surficial soils. Nonetheless, previously undiscovered archaeological resources could potentially be present below the ground surface throughout the City and such resources could be disturbed by grading and excavation activities associated with development. Therefore, reasonably foreseeable development under the Housing and Safety Element Update has the potential to adversely archaeological resources. This issue will be discussed further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	■	☐
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	■	☐

California is one of the lowest per capita energy users in the United States, ranked 48th in among states, due to its energy efficiency programs and mild climate. In 2018, California consumed 681 million barrels of petroleum, 2,137 billion cubic feet of natural gas, and one million short tons of coal in 2018 (United States Energy Information Administration [EIA] 2020). The single largest end-use sector for energy consumption in California is transportation (39.1 percent), followed by industrial (23.5 percent), commercial (19.2 percent), and residential (18.3 percent) (EIA 2020).

Most of California's electricity is generated in-state with approximately 30 percent imported from the northwest and southwest in 2018. In addition, approximately 30 percent of California's electricity supply comes from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (California Energy Commission 2019). Adopted on September 10, 2018, Senate Bill (SB) 100 accelerates the State's Renewables Portfolio Standards Program by requiring electricity providers to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045.

To reduce statewide vehicle emissions, California requires all motorists use California Reformulated Gasoline, which is sourced almost exclusively from in-state refineries. Gasoline is the most used transportation fuel in California with 15.3 billion gallons sold in 2019 and is used by light-duty cars, pickup trucks, sport utility vehicles, and aviation (California Department of Tax and Fee Administration 2020). Diesel is the second most used fuel in California with 4.2 billion gallons sold in 2015 and is used primarily by heavy duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles (California Energy Commission 2016).

a. Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Reasonably foreseeable development under the proposed Project would consume energy during construction and operation through the use of petroleum fuel, natural gas, and electricity, as further addressed below.

Construction

Energy use during construction associated with reasonably foreseeable development under the Housing and Safety Element Update would be in the form of fuel consumption (e.g., gasoline and diesel fuel) to operate heavy equipment, light-duty vehicles, machinery, and generators for lighting. In addition, temporary grid power may also be provided to construction trailers or electric construction equipment. Energy use during the construction of individual projects would be temporary in nature, and equipment used would be typical of construction projects in the region. In addition, construction contractors would be required to demonstrate compliance with applicable California Air Resources Board regulations that restrict the idling of heavy-duty diesel motor vehicles and govern the accelerated retrofitting, repowering, or replacement of heavy-duty diesel on- and off-road equipment.

Construction activities associated with reasonably foreseeable development under the proposed Project would be required to utilize fuel-efficient equipment consistent with State and Federal regulations and would comply with State measures to reduce the inefficient, wasteful, or unnecessary consumption of energy. In addition, individual projects would be required to comply with construction waste management practices to divert 80 percent of construction and demolition debris. Developers would be required to complete the Construction and Demolition Waste Management Plan Form and use City-approved haulers to remove mixed construction debris in accordance with the standards set by the Department of Public Works.

These practices would result in efficient use of energy during construction of future development under the proposed Project. Furthermore, in the interest of both environmental awareness and cost efficiency, construction contractors would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, future construction activities associated with reasonably foreseeable development under the Housing and Safety Element Update would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant.

Operation

Long-term operation of new projects developed in accordance with the Housing and Safety Element Update would require permanent grid connections for electricity and natural gas service to power internal and exterior building lighting, and heating and cooling systems. As previously discussed, the Housing and Safety Element Update would prioritize development in previously developed areas of Burbank that are already served by energy providers. Electricity service in the City is provided by Burbank Water and Power. Southern California Gas Company (SoCal Gas) provides natural gas services to residents and businesses in the City.

Reasonably foreseeable development under the Housing and Safety Element Update would be subject to the energy conservation requirements of the California Energy Code (Title 24, Part 6 of the California Code of Regulations, California’s Energy Efficiency Standards for Residential and Nonresidential Buildings), the California Green Building Standards Code (Title 24, Part 11 of the California Code of Regulations). The California Energy Code provides energy conservation standards for all new and renovated commercial and residential buildings constructed in California. This Code applies to the building envelope, space-conditioning systems, and water-heating and lighting systems of buildings and appliances and provides guidance on construction techniques to maximize energy conservation. Minimum efficiency standards are given for a variety of building elements, including appliances; water and space heating and cooling equipment; and insulation for doors, pipes, walls, and ceilings. The Code emphasizes saving energy at peak periods and seasons and improving the quality of installation of energy efficiency measures. The California Green Building Standards Code sets targets for energy efficiency; water consumption; dual plumbing systems for potable and recyclable water; diversion of construction waste from landfills; and use of environmentally sensitive materials in construction and design, including ecofriendly flooring, carpeting, paint, coatings, thermal insulation, and acoustical wall and ceiling panels.

In addition, the Housing and Safety Element Update would prioritize future development projects in close proximity to high quality transit areas and existing commercial/retail, recreational, and institutional land uses, which would reduce trip distances and encourage the use of alternative modes of transportation such as bicycling and walking. These factors would minimize the potential of the proposed Project to result in the wasteful or unnecessary consumption of vehicle fuels. As a result, operation of reasonably foreseeable development projects under the Housing Element Update would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and impacts would be less than significant; the Safety Element and Environmental Justice updates would not result in development that would create energy impacts. Further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

In January 2008, the City Council integrated the City’s environmental programs by adopting the Sustainability Action Plan. This plan is based on the United National Environmental Accords which provide a series of goals or “action items” that can be adopted at the local level to achieve urban sustainability, promote healthy economies, advance social equity, and protect the world’s ecosystem. The plan includes both renewable energy and energy efficiency goals, as well as the expansion of public transportation throughout the City (City of Burbank 2008). In addition, Burbank Water and Power (BWP) will continue to implement programs to emphasize water conservation consistent with the City’s Urban Water Management Plan (UWMP) and renewable energy generation. This includes the increased use of recycled water and stormwater capture for groundwater recharge, as well as potential development of a compressed air energy storage facility (BWP 2016; BWP 2018).

Construction activity associated with individual projects under the Housing and Safety Element Update would be required to comply with applicable City and State energy efficiency regulations and standards, which would ensure that the proposed Project would not conflict with renewable energy and energy efficiency plans adopted by the City. As such, reasonably foreseeable development under the Housing Element Update would not conflict with or obstruct a plan for renewable energy or energy efficiency, and the Safety Element and Environmental Justice updates would not result in development that would create energy impacts. Impacts would be less than significant and Further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

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7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	■	☐
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
4. Landslides?	☐	☐	■	☐
b. Result in substantial soil erosion or the loss of topsoil?	☐	☐	■	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	☐	☐	■	☐
d. Be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	■	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	■	☐	☐	☐

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Burbank is located in a seismically active region of southern California. Moderate to strong earthquakes can occur on numerous local faults. Southern California faults are classified as "active," "potentially active," or "inactive." Faults from past geologic periods of mountain building that do not display any evidence of recent offset are considered "potentially active" or "inactive." Faults that have historically produced earthquakes or show evidence of movement in the past 11,000 years are known as "active faults."

The active Verdugo Fault runs through the northeastern side of the City and is capable of producing surface fault rupture during a future earthquake (City of Burbank 2013a). According to the DOC, the Verdugo Fault runs east to west for approximately seven miles through the eastern portion of the City (DOC 2020b). Therefore, reasonably foreseeable development under the Housing Element Update could occur in areas with the potential for fault rupture and associated risk of loss, injury, or death. However, such development would not directly or indirectly cause or exacerbate potential substantial adverse effects involving the rupture of a known earthquake fault, and the Safety Element and Environmental Justice updates would not result in development that would create geologic impacts. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The Verdugo Fault runs through the City and would be capable of producing strong seismic ground shaking in the event of an earthquake. In addition, the City is located in the highly seismic Southern California region where several fault systems are considered to be active or potentially active. Reasonably foreseeable development under the Housing and Safety Element Update may be subject to ground shaking in the event of an earthquake originating along one of the faults designated as active or potentially active in the vicinity of Burbank. Nearby active faults include the Verdugo Fault, the Santa Monica Fault, the Newport-Inglewood Fault Zone, the Raymond Fault, the Hollywood Fault, the Sierra Madre Fault, and the San Fernando Fault.

Development in Burbank is required to adhere to the Uniform Building Code (UBC) and California Building Code (CBC). The UBC and CBC regulate the design and construction of excavations, foundations, building frames, retaining walls, and other building elements to mitigate the effects of seismic shaking. Compliance with applicable standards would minimize the potential for property damage and loss of life and reasonably foreseeable development under the Housing Element Update would not increase the frequency or severity of ground shaking; and the Safety Element and Environmental Justice updates would not result in development that would create geologic impacts. Therefore, impacts would be less than significant and further analysis of this issue is not warranted.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction is a phenomenon in which loose, saturated, granular soils behave similarly to a fluid when subjected to high-intensity ground shaking. Liquefaction occurs when three general conditions exist: shallow groundwater; low density, fine, clean sandy soils; and strong ground motion. Liquefaction-related effects include loss of bearing strength, amplified ground oscillations, lateral spreading, and flow failures.

According to the DOC Earthquake Zones of Required Investigation map, portions of the City are at risk of seismically induced liquefaction (DOC 2020c). As mentioned above, development in Burbank is required to adhere to the UBC and CBC. Compliance with City and State building codes would reduce impacts associated with liquefaction from seismic ground shaking with current engineering practices and the proposed Project would not exacerbate liquefaction potential in the area. As such, reasonably foreseeable development under the Housing Element Update would not directly or indirectly cause substantial adverse effects from liquefaction risk, and the Safety Element and Environmental Justice updates would not result in development that would create geologic impacts. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The geologic character of an area determines its potential for landslides. Steep slopes, the extent of erosion, and the rock composition of a hillside all contribute to the potential for slope failure and landslide events. In order to fail, unstable slopes need to be disturbed; common triggering mechanisms of slope failure include undercutting slopes by erosion or grading, saturation of marginally stable slopes by rainfall or irrigation; and, shaking of marginally stable slopes during earthquakes. The topography of the City of Burbank is generally flat, although the northeastern portion of development in the City is situated along the foothills of the Verdugo Mountains. According to the DOC Earthquake Zones of Required investigation map, several single-family residential parcels located north of Bel Aire Drive in the northeast portion of the City have been identified as potential areas for landslides, but the majority of the City is not located in a landslide zone (DOC 2020c) and housing sites identified in the Housing Element Update are not located along the foothills. In addition, the Safety Element and Environmental Justice updates would not result in development that would create geologic impacts. Therefore, development under the proposed Project would not directly or indirectly cause impacts related to landslides. Potential impacts would be less than significant and further analysis of this issue is not warranted.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport offsite. The Housing and Safety Element Update would emphasize the reasonably foreseeable development on previously disturbed, infill areas. Ground-disturbing activities associated with the construction of development would have the potential to result in the removal and erosion of topsoil during grading and excavation.

Because the Housing and Safety Element Update would prioritize development in areas that are already built out, the potential for erosion would primarily be limited to temporary effects of possible topsoil loss at future project construction sites. Standard construction Best Management Practices (BMPs) would be implemented in order to avoid or minimize soil erosion associated with ground-disturbing activities. Implementation of erosion control measures required by BMC Chapter 9.3.407, *Standard Urban Storm Water and Urban Runoff Management Programs,* would be designed to capture and treat runoff from construction sites such as through stabilization of construction entrance roadways and on-site retention of eroded sediments and pollutants. Construction activities that disturb one or more acres of land are subject to the National Pollutant Discharge Elimination System (NPDES) General Construction Permit process, which would require development of a Stormwater Pollution Prevention Plan (SWPPP) that outlines project-specific BMPs to control erosion, sediment release, and otherwise reduce the potential for discharge of pollutants from construction into stormwater. Typical BMPs include, but are not limited to, installation of silt fences, erosion control blankets, and anti-tracking pads at site exits to prevent off-site transport of soil material. Construction activities would also be required to comply with CBC Chapter 70 standards, which are designed to ensure implementation of appropriate measures during grading and construction to control erosion and storm water pollution.

With implementation of the requirements described above, erosion from demolition and construction activities associated with reasonably foreseeable development under the Housing Element Update would be controlled through implementation of the requirements and BMPs contained in existing regulations, including the NPDES Construction General Permit and BMC. Furthermore, BMPs for post-construction erosion and sediment control would remain in effect, which would improve future erosion conditions. Compliance with the regulations discussed above would reduce the risk of soil erosion from construction activities such that there would be minimal change in risk compared to current conditions. In addition, the Safety Element and Environmental Justice updates would not result in development that would create erosion impacts. Therefore, impacts would be less than significant and further analysis of this issue is not warranted.

LESS THAN SIGNIFICANT IMPACT

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Impacts related to landslides and liquefaction are addressed under *Impacts a.3*. and *a.4*.; therefore, this discussion focuses on impacts related to unstable soils as a result of lateral spreading, subsidence, or collapse. Lateral spreading occurs as a result of liquefaction; accordingly, liquefaction-prone areas would also be susceptible to lateral spreading. Subsidence occurs at great depths below the surface when subsurface pressure is reduced by the withdrawal of fluids (e.g., groundwater, natural gas, or oil) resulting in sinking of the ground. The City of Burbank may be susceptible to subsidence from groundwater withdrawal as a result of drought conditions and declining groundwater levels.

The Housing and Safety Element Update would prioritize development of housing on infill sites that may contain underlying unstable soils. Because reasonably foreseeable development under the proposed Project would primarily involve infill development, development under the proposed Project would not affect existing conditions related to unstable soils, unless improperly constructed. Future development would be required to comply with the CBC's minimum standards for structural design and site development. The CBC provides standards for excavation, grading, and earthwork construction; fills and embankments; expansive soils; foundation investigations; and liquefaction potential and soils strength loss. Thus, CBC-required incorporation of soil treatment programs (replacement, grouting, compaction, drainage control, etc.) in the excavation and construction plans can achieve an acceptable degree of soil stability to address site-specific soil conditions. Adherence to these requirements would achieve accepted safety standards relative to unstable geologic units or soils. In addition, although reasonably foreseeable development under the Housing Element Update would potentially be subject to these hazards, it would not increase the potential for lateral spreading, subsidence, or collapse; and the Safety Element and Environmental Justice updates would not result in development that would create geologic impacts. Therefore, impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Soils that volumetrically increase (swell) or expand when exposed to water and contract when dry (shrink) are considered expansive soils. A soil's potential to shrink and swell depends on the amount and types of clay in the soil. Highly expansive soils can cause structural damage to foundations and roads without proper structural engineering and are generally less suitable or desirable for development than non-expansive soils because of the necessity for detailed geologic investigations and costlier grading applications.

The Housing and Safety Element Update would prioritize development of housing on infill sites in the City that may contain underlying expansive soils. Because reasonably foreseeable development under the Housing and Safety Element Update would primarily involve infill development, new development would not substantially increase the potential exposure to or extent of expansive soils within the City. Furthermore, future projects under the Housing Element would be subject to BMC regulations that require the submission of a soils report and all appropriate recommendations by a registered civic engineer before the issuance of building permits within liquefaction susceptibility zones. The CBC, which is based on the UBC, has been modified for California conditions with numerous more detailed and/or more stringent regulations. If expansive soils are detected based on a preliminary soil report, the CBC requires the preparation of a soil investigation prior to construction and incorporation of appropriate corrective actions to prevent structural damage, to be determined on a project-by-project basis. Consequently, there would be minimal change in the exposure of people or structures to risks associated with expansive soils and impacts would be less than significant. In addition, the Safety Element and Environmental Justice updates would not result in development that would create impacts to soils. Further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

The Housing and Safety Element Update would emphasize reasonably foreseeable development in urban infill sites that are served by existing infrastructure. Future development under the proposed Project is not anticipated to include the use of septic systems. Therefore, there would be no impact related to the use of septic tanks or alternative wastewater disposal systems and further analysis of this issue in an EIR is not warranted.

NO IMPACT

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

The Housing and Safety Element Update would prioritize reasonably foreseeable development on infill sites in the City that have previously been developed and disturbed. Nonetheless, there is the potential for as yet undiscovered paleontological resources to be present below the ground surface throughout the City. Such resources could be disturbed by grading and excavation activities associated with future development. Therefore, reasonably foreseeable development under the Housing and Safety Element Update has the potential to adversely affect paleontological resources and this issue will be discussed further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	■	☐	☐	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	■	☐	☐	☐

Overview of Climate Change and Greenhouse Gases

Gases that absorb and re-emit infrared radiation in the atmosphere are called greenhouse gases (GHGs). The gases that are widely seen as the principal contributors to human-induced climate change include carbon dioxide (CO_2), methane (CH_4), nitrous oxides (N_2O), fluorinated gases such as hydrofluorocarbons and perfluorocarbons, and sulfur hexafluoride. Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

GHGs are emitted by both natural processes and human activities. Of these gases, CO_2 and CH_4 are emitted in the greatest quantities from human activities. Emissions of CO_2 are largely by-products of fossil fuel combustion, and CH_4 results from off-gassing associated with agricultural practices and landfills. Different types of GHGs have varying global warming potentials (GWPs), which are the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO_2) is used to relate the amount of heat absorbed to the amount of the GHG emissions, referred to as carbon dioxide equivalent (CO_2e), and is the amount of a GHG emitted multiplied by its GWP. CO_2 has a 100-year GWP of one. By contrast, CH_4 has a GWP of 28, meaning its global warming effect is 28 times greater than that of CO_2 on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2014a).[2]

The accumulation of GHGs in the atmosphere regulates Earth's temperature. Without the natural heat-trapping effect of GHGs, the Earth's surface would be about 60 degrees Fahrenheit cooler than present (USEPA 2021). However, emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of GHGs in the atmosphere beyond the level of naturally occurring concentrations.

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[2] The IPCC's (2014a) *Fifth Assessment Report* determined that methane has a GWP of 28. However, modeling of GHG emissions was completed using the California Emissions Estimator Model version 2016.3.2, which uses a GWP of 25 for methane, consistent with the IPCC's (2007) *Fourth Assessment Report*.

a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

b. *Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

Reasonably foreseeable development under the Housing and Safety Element Update would generate GHG emissions during construction through the use of petroleum-fueled construction equipment and worker vehicle trips to and from construction sites. Operation of development under the Housing Element Update would generate GHG emissions through the use of electricity and natural gas, vehicle trips of occupants, waste generation, water use, and wastewater generation.

Emissions could potentially create a significant impact on the environment and/or conflict with local and regional plans adopted for the purpose of reducing GHG emissions, including the regional Sustainable Communities Strategy (SCS), and the goals and policies of the Air Quality and Climate Change and Open Space and Conservation Elements in the Burbank2035 General Plan. Impacts related to GHG emissions would be potentially significant and will be analyzed further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	■	☐
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	■	☐	☐	☐
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	■	☐	☐	☐
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	■	☐	☐	☐
e. For a project located in 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?	■	☐	☐	☐
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	■	☐	☐	☐
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	☐	☐	■	☐

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Construction activity associated with reasonably foreseeable development under the proposed Project would involve the use of potentially hazardous materials, such as vehicle fuels and fluids, that could be released should a leak or spill occur. However, contractors would be required to implement standard construction best management practices (BMPs) for the use and handling of such materials to avoid or reduce the potential for such conditions to occur. Any use of potentially hazardous materials during construction of future development would be required to comply with all local, State, and Federal regulations regarding the handling of potentially hazardous materials. Likewise, the transport, use, and storage of hazardous materials during future construction would be required to comply with applicable State and Federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and California Code of Regulations Title 22.

Reasonably foreseeable development under the proposed Project would primarily include mixed-use commercial and housing, which are not land uses typically associated with the use, transportation, storage, or generation of significant quantities of hazardous materials. Operation of future developments under the proposed Project would likely involve an incremental increase in the use of common household hazardous materials, such as cleaning and degreasing solvents, fertilizers, pesticides, and other materials used in regular property and landscaping maintenance. Use of these materials would be subject to compliance with existing regulations, standards, and guidelines established by local, State, and Federal agencies related to storage, use, and disposal of hazardous materials. Therefore, upon compliance with all applicable laws and regulations relating to environmental protection and the management of hazardous materials, potential impacts associated with the routine transport, use, or disposal of hazardous materials during construction and operation of development projects under the Housing Element Update would be less than significant; and the Safety Element and Environmental Justice updates would not result in development that would create hazardous impacts. Further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

b. Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

As described under *Impact a.*, above, the transport, use, and storage of hazardous materials during the construction of future development under the proposed Project would be conducted in accordance with applicable local, State and Federal laws, such as the Hazardous Materials Transportation Act, Resource Conservation and Recovery Act, the California Hazardous Material Management Act, and California Code of Regulations Title 22. However, there is the potential for future construction to involve the demolition or alteration of structures that may contain asbestos and/or lead-based paint (LBP), which could pose hazards to receptors at adjacent land uses. Furthermore, because the Housing and Safety Element Update would emphasize development on infill sites within urban areas, there is the potential for future development to occur on sites where hazardous materials were once used or stored and have the potential to contain contaminated soils, the disturbance of which could pose hazards to receptors at adjacent land uses. Therefore, impacts related to the release of hazardous materials would be potentially significant and will be studied further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

The Burbank Unified School District (BUSD) oversees 22 schools in the City, including 11 elementary schools, three middle schools, three high schools, and five alternative schools (BUSD 2002). There are also numerous day cares, charter schools and private schools located throughout the City. As discussed above, future development under the proposed Project would not involve the use or transport of large quantities of hazardous materials. However, due to the potential for schools to be located within 0.25 miles of future construction sites and the potential for release of contamination during the construction period, this impact is potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

d. Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Reasonably foreseeable development under the proposed Project could potentially occur on hazardous materials sites listed in Government Code Section 66962.5. Construction of future development under the Housing and Safety Element Update could potentially result in a significant hazard to the public or environment through the release of hazardous materials during site grading and exposure of future residents to potential contamination if contaminants are not properly identified and remediated as appropriate. Therefore, this impact is potentially significant and will be further discussed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?

The Hollywood Burbank Airport is located near the northwestern edge of the City and has an associated airport land use plan (Los Angeles County 2003). The Housing and Safety Element Update would accommodate development in the Golden State District, which surrounds a portion of the airport. Because reasonably foreseeable development under the proposed Project may occur in the Airport Influence Area, impacts would be potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The Safety Element of the Burbank2035 General Plan identifies the evacuation routes in the City. These routes are typically parallel major north-south and east-west corridors, such as North San Fernando Boulevard and West Burbank Boulevard (City of Burbank 2013a). Reasonably foreseeable development under the Housing and Safety Element Update would be required to comply with applicable City codes and regulations pertaining to emergency response and evacuation plans maintained by the City's police and fire departments, including all updates under the Safety Element. However, construction activities associated with reasonably foreseeable development under the Housing and Safety Element Update could interfere with adopted emergency response or evacuation plans as a result of temporary construction activities within rights-of-way, due to temporary construction barricades or other obstructions that could impede emergency access. In addition, increased development density under the Housing and Safety Element Update could result in additional traffic on area roadways. Therefore, impacts related to emergency response plans and emergency evacuation plans would be potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The northeastern portion of the City that is in the Verdugo Mountains is located in a Very High Fire Hazard Severity Zone (VHFHSZ) as mapped by the California Department of Forestry and Fire Protection (CalFire 2020). Also, a portion of the City between the 134 Freeway and Forest Lawn Drive are within the VHFHSZ. However, the Housing and Safety Element Update would prioritize future development in the urbanized areas of the City that are not in the VHFHSZ. In addition, reasonably foreseeable development under the Housing and Safety Element Update would be required to be constructed according to the UBC requirements for fire-protection and would be subject to review and approval by the Burbank Fire Department. Therefore, development under the proposed Project would not pose a substantial risk to people or structures due to wildland fires or exacerbate existing wildland fire hazards. In addition, the Safety Element Update is intended to improve policies and regulations associated with wildland fires, which therefore aim to reduce potential wildland fire risks, and the Environmental Justice Update would not result in development that would create impacts related to wildland fires. Potential impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	■	☐
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	■	☐	☐	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	■	☐
(i) Result in substantial erosion or siltation on- or off-site;	☐	☐	■	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	■	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	■	☐
(iv) Impede or redirect flood flows?	☐	☐	■	☐
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	■	☐
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	■	☐

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Burbank is within the jurisdiction of the Los Angeles Regional Water Quality Control Board (RWQCB), which is responsible for the preparation and implementation of the water quality control plan for the Los Angeles Region. Section 90 of WHMC Chapter 15.56., Storm Water and Urban Runoff Pollution Control, requires owners or developers to implement stormwater pollution control requirements for construction activities. In addition, Regulations under the Federal Clean Water Act require compliance with the National Pollutant Discharge Elimination System (NPDES) storm water permit for projects disturbing more than one acre during construction. Operators of a construction site would be responsible for preparing and implementing a SWPPP that outlines project specific BMPs to control erosion, sediment release, and otherwise reduce the potential for discharge of pollutants in stormwater. Typical BMPs include covering stockpiled soils, installation of silt fences and erosion control blankets, and proper handling and disposal of wastes. Compliance with these regulatory requirements would minimize impacts to water quality during the construction of future projects under the Housing and Safety Element Update.

Construction of reasonably foreseeable development under the Housing and Safety Element Update could potentially impact surface or ground water quality due to erosion resulting from exposed soils and the generation of water pollutants, including trash, construction materials, and equipment fluids. However, compliance with the regulations described above would reduce impacts resulting from reasonably foreseeable development under the Housing and Safety Element Update to a less than significant level. Furthermore, the Housing Element Update would not introduce any features that would preclude implementation of or alter these policies and procedures, and the Safety Element and Environmental Justice updates would not result in development that would create impacts related to water quality. Therefore, implementation of the proposed Project would not violate any water quality standards or waste discharge requirements. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Reasonably foreseeable development under the Housing and Safety Element Update would utilize water for construction, operations, and landscape maintenance. Water supply requirements for development under the Housing and Safety Element Update would be met by Burbank Water and Power (BWP). BWP's sources of water include water purchased from the Metropolitan Water District of Southern California (MWD), stored groundwater, and groundwater credits. Because a portion of BWP's water supply is from groundwater resources, groundwater could potentially be a source in supplying water to future project sites. Water demand could be met in a number of ways other than increasing groundwater withdrawal, such as increasing the amount of water purchased from the MWD of Southern California, implementing water conservation measures, increasing use of recycled water, and/or implementing groundwater recharge projects.

Reasonably foreseeable development would not substantially increase the amount of impervious surface in the City because the Housing and Safety Element Update would prioritize development on infill areas that are already urbanized and largely covered with impervious surfaces; therefore, the proposed Project would not interfere substantially with groundwater recharge. Implementation of the Housing and Safety Element Update may provide some benefits to groundwater recharge by replacing older development with new development subject to open space, landscaping, and stormwater BMP requirements that would increase pervious surfaces associated with new development.

Potential construction activities associated with future development under the Housing and Safety Element Update, such as excavation for subterranean parking lots and foundation-laying for tall buildings, could potentially extend into the underlying groundwater table. Construction activities overlying areas with shallower groundwater depth could expose groundwater resources to contamination. However, the risk of groundwater contamination during construction is minimal and would most likely occur due to spills or leaks from equipment or materials used in construction. Developers of individual project sites one acre or more in size are also required to prepare a SWPPP, which includes BMPs to prevent contamination of stormwater and runoff during construction. Typical construction BMPs to prevent stormwater contamination would also prevent contamination of groundwater resources, as exemplified by the following BMPs:

- Construction equipment and vehicles shall be properly maintained.
- All materials shall be properly stored and transported.
- Fuels will be stored in secure areas.

With implementation of appropriate construction BMPs, the impact of reasonably foreseeable development under the Housing and Safety Element Update on groundwater resources would be minimized and impacts related to infiltration/contamination would be less than significant. However, impacts related to groundwater supplies and sustainable groundwater management are potentially significant. The impact analysis will be provided in the *Utilities and Service Systems* section of the EIR.

POTENTIALLY SIGNIFICANT IMPACT

c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?

c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Under existing conditions, infill sites that would be the focus of reasonably foreseeable development under the proposed Project are primarily paved and/or developed with structures. Therefore, development under the Housing and Safety Element Update would not be anticipated to substantially alter drainage patterns, or alter drainage patterns to an extent that would result in substantial erosion, siltation, or flooding on- or off-site. Residential uses that would be accommodated by the Housing and Safety Element Update are not sources of high levels of stormwater pollution.

As discussed under *Impact a.* of this section, future construction activities would be required to include BMPs to prevent stormwater contamination and reduce runoff, pursuant to WHMC Chapter 15.56.090, and potentially the NPDES General Construction Permit depending on the size of future development projects. BMPs and implementation of a Standard Urban Storm Water Mitigation Plan (SUSMP) would be required for future projects to reduce polluted runoff from by retaining, treating, or infiltrating polluted runoff onsite, and integrate post-construction BMPs into a site's overall drainage system. These construction and erosion control practices would reduce the potential for adverse effects caused by excavation and general construction. Therefore, reasonably foreseeable development under the proposed Project would not introduce substantial additional sources of polluted runoff.

Because development under the Housing Element Update would not substantially alter the existing drainage pattern and development and construction of future projects would be required to implement stormwater BMPs, development under the proposed Project would not generate a substantial increase in runoff that would result in substantial erosion, siltation, flooding on- or off-site, or increased polluted runoff. The Safety Element and Environmental Justice updates would not result in development that would create drainage impacts. Therefore, impacts related to drainage and runoff would be less than significant and further analysis of these issues in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?

According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Maps (FIRMs), the City of Burbank contains a strip of Special Flood Hazard Areas (SFHA), areas subject to 100-year and 500-year floods, along the northern edge of U.S. Highway 5 in the center of the City.

New developments are required to comply with Section 1612 (Flood Loads) and Appendix G (Flood-Resistant Construction) of the CBC, which have also been adopted under Chapter 1 of the BMC. In addition, as discussed under *Impact c(i), c (ii),* and *c(iii)*, above, the Housing and Safety Element Update would emphasize new development of on infill sites in urbanized areas that are already primarily paved and/or developed with structures. Therefore, reasonably foreseeable development under the Housing Element Update would not substantially alter drainage patterns, and the Safety Element and Environmental Justice updates would not result in development that would create drainage impacts. Consequently, growth under the proposed Project would not alter the drainage pattern of the Plan Area to an extent that would redirect or impede flood flows. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

Seiches are large waves generated by ground shaking effects within enclosed bodies of water. Four reservoirs or dams surround Burbank: Devil's Gate Dam, Reservoir 1, Reservoir 4, and Reservoir 5. The northwest portion of the City is subject to Dam inundation by the three reservoirs (Burbank Fire Department 2011). However, these reservoirs impound more than 50 acre-feet of water in order to reduce the risk of flooding, and they are not large enough to result in considerable risk of inundation in Burbank that would result from failure of any of the facilities (Burbank 2013). Therefore, potential impacts associated with flooding from a seismically induced seiche would not be significant.

Tsunamis are tidal waves generated by fault displacement or major ground movement. Since Burbank is landlocked and located over 15 miles from the Pacific Ocean, tsunamis are not considered a hazard.

As discussed under Impact c.(iv), above, a central portion of the City lies in a flood hazard zones subject to 100-year and 500-year floods. Reasonably foreseeable development under the proposed Project would be concentrated on infill sites and would not substantially alter the overall development patterns in the City. The Housing and Safety Element Update would increase development capacity, thereby potentially increasing the number of people and structures exposed to potential flooding. However, this condition already exists, and the proposed Project would not exacerbate existing flood hazards. Further, while there is the potential for flooding to impact portions of the City, as discussed under Section 9, *Hazards and Hazardous Materials*, future developments under the proposed Project would not involve the storage or use of significant quantities of hazardous materials, and construction of new structures would be required to comply with CBC regulations for flooding. Therefore, risks related to the release of hazardous materials due to inundation are minimal. The Housing Element Update would have a less than significant impact. In addition, the Safety Element and Environmental Justice updates would not result in development that would create impacts related to seiches, tsunamis or flood hazards. Further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Potential water quality and groundwater impacts associated with the Housing and Safety Element Update are discussed above under *Impacts a.* and *b.* The Housing Element Update would not contain any policies that would conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Furthermore, development under the proposed Project would be required to comply with the existing regulations discussed under *Impacts a.* and *b* of this section, including during construction and operation, and would not otherwise substantially degrade water quality. In addition, the Safety Element and Environmental Justice updates would not result in development that would conflict with applicable water management plans. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

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11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	☐	☐	☐	■
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	■	☐

a. Would the project physically divide an established community?

Implementation of the Housing and Safety Element Update would prioritize future development on infill sites in already urbanized areas of the City. Therefore, reasonably foreseeable development under the proposed Project would not involve the construction of new roads, railroads, or other features that may physically divide established communities in the City. As discussed in the *Description of the Project*, above, goals, policies and objectives under the Housing Element Update would put a greater emphasis on preventing displacement and promoting housing stability to maintain and preserve the quality of the City's existing neighborhoods. Consequently, there would be no impact associated with the physical division of an established community. In addition, the Safety Element and Environmental Justice updates would not result in development that would divide an established community. Further analysis of this issue in an EIR is not warranted.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The proposed Project is the 2021-2029 Burbank Housing Element Update, Safety Element Update, and Environmental Justice Updates, which examines the City's housing needs, as they exist today, and projects future housing needs. The Housing and Safety Element Update focuses on addressing the City's housing needs by providing goals, policies and programs associated with fair housing, the prevention of displacement, promoting housing stability, and the prevention of homelessness. The proposed Project includes actions the City is undertaking to achieve its housing RHNA targets and also would implement SCAG's land use goals and policies by primarily placing development in areas with access to transit and services, thus minimizing vehicle trips and GHG emissions.

Upon its adoption by the City, the Housing and Safety Element Update would serve as a comprehensive statement of the City's housing policies and as a specific guide for program actions to be taken in support of those policies. As a part of the General Plan, development with adherence to the Housing Element Update would comply with the City's Burbank2035 General Plan. In addition, the Safety Element Update will be made to achieve compliance with State, regional and local policies, and guidelines; and the Environmental Justice Updates will reduce health risks to DACs, promote civic engagement, and prioritize the needs of these communities.

The Housing and Safety Element Update is a policy document that encourages development on infill sites, but would not grant entitlements for any specific projects. Future development proposals that are intended to assist in meeting the City's projected housing need would be reviewed by the City for consistency with all adopted local and State laws, regulations, standards, and policies. Impacts related to conflicts with land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

12 Mineral Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	■
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	■

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Reasonably foreseeable development under the proposed Project would primarily occur in existing commercial and residential areas, which are not compatible with or used for mineral extraction. It is not anticipated that development under the Housing and Safety Element Update would occur on lands presently in use for mineral extraction. Furthermore, the proposed Housing Element, Safety Element and Environmental Justice updates do not include any policies that related to mineral resources or conflict with existing General Plan policies and City ordinances regulating the conservation and use of mineral resources. Therefore, the proposed Project would not result in a loss of availability of a known mineral resource. There would be no impact and further analysis of this issue in an EIR is not warranted.

NO IMPACT

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The California Surface Mining and Reclamation Act of 1975 (SMARA) was enacted to promote conservation and protection of significant mineral deposits. SMARA requires the State to identify and classify mineral deposits within the State as either: (1) containing little or no mineral deposits (MRZ-1), (2) significant deposits (MRZ-2) or (3) deposits identified but further evaluation needed (MRZ-3 and MRZ-4).

As discussed under *Impact a.* of this section, the Housing and Safety Element Update would prioritize reasonably foreseeable development on infill sites in urban areas that primarily consist of residential, commercial and mixed-use development, which are not considered compatible with mineral extraction. According to the Open Space and Conservation Element of the Burbank2035 General Plan, portions of the City are categorized as MRZ-2 and MRZ-3 (City of Burbank 2013a). However, due to the extensive urban development of the City and historical land use changes, mining activities are no longer feasible. In addition, the proposed Safety Element and Environmental Justice updates would not result in development that would create environmental impacts.

Therefore, the proposed Project would not further the loss of available mineral resources. No impact would occur and further analysis of this issue in an EIR is not warranted.

NO IMPACT

13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	■	☐	☐	☐
b. Generation of excessive groundborne vibration or groundborne noise levels?	■	☐	☐	☐
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	■	☐	☐	☐

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction of reasonably foreseeable development under the Housing and Safety Element Update could generate temporary noise levels in excess of the ambient noise levels in the City. Operation of reasonably foreseeable development under the Housing and Safety Element Update has the potential to generate vehicle trips to and from individual projects and include operational noise sources, including, but not limited to, heating, ventilation and air conditioning equipment and hauling/delivery vehicles. Development may also generate traffic increases along the local transportation network. Operation of reasonably foreseeable development under the proposed Project may have the potential to exceed operational thresholds for receiving land uses and sensitive receivers, if located nearby. Potential noise impacts related to substantial temporary or permanent increases in noise, in excess of City standards, could occur. Impacts would be potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

b. *Would the project result in generation of excessive groundborne vibration or groundborne noise levels?*

Construction activity can result in varying degrees of ground vibration depending on the equipment and methods employed. Operation of construction equipment causes vibrations that spread through the ground and diminish in strength with distance. Reasonably foreseeable development under the Housing and Safety Element Update may result in excessive short- and/or long-term ground borne vibration or noise from construction or operation activities if located near sensitive receivers, such as residences, hospitals, schools, libraries, churches, or fragile buildings where vibration damage can occur. Impacts related to ground borne vibration and ground borne noise would be potentially significant and will be evaluated in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

c. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

As discussed in Section 9, *Hazards and Hazardous Materials*, a portion of Burbank is within the Airport Influence Area of the Hollywood Burbank Airport on the northwestern edge of the City. Although overflight of aircrafts has the potential to expose people residing or working in the City to aircraft noise, this type of noise is common in urban areas. In addition, aircraft noise is intermittent and temporary. Nevertheless, because the Housing and Safety Element Update would accommodate housing development in the Golden State District that surrounds the eastern portion of the airport, future development under the proposed Project may occur within the Airport Influence Area. Impacts would be potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

14 Population and Housing

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Induce substantial unplanned population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	■	☐	☐	☐
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	■	☐

a. Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

As described in Section 2.5.2, *RHNA Allocation*, the estimated net housing units for the City of Burbank would fall short of the RHNA allocation by 2,391 units. To make up for this shortfall, the Housing Element includes a housing program to amend the General Plan and adopt the Downtown TOD and the GSSP which will provide the necessary zoning, development standards, and processing procedures to facilitate the production of housing required to accommodate the City's housing needs during the Housing Element 2021-2029 planning period. The zone changes required by these Specific Plans will be adopted in 2022-24. The City would exceed the RHNA requirement for a total of 10,456 new residential units. According to the California Department of Finance (DOF), the City of Burbank has a current population of 103,969 with an average household size of 2.45 (DOF 2021). Based on the average household size of 2.45, the increase of 10,456 residential units would generate a population increase of approximately 25,617 residents. Implementation of the Housing and Safety Element Update would contribute to population growth in the City. Impacts related to population growth are potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Reasonably foreseeable development under the Housing and Safety Element Update would involve development projects on infill sites. However, goals, policies, and objectives included in the Housing and Safety Element Update aim to prevent displacement and promote housing stability. In addition, the Housing and Safety Element Update would provide additional opportunities for housing by expanding areas where housing is allowed. The Housing Element Update would accommodate up to 10,456 residential units throughout the planning period, and it is anticipated that any replacement housing need created by displacement of existing housing would be more than offset through implementation of the Housing Element Update. In addition, the Safety Element and Environmental Justice updates would not result in development that would displace people or housing. Therefore, impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
1 Fire protection?	■	☐	☐	☐
2 Police protection?	■	☐	☐	☐
3 Schools?	■	☐	☐	☐
4 Parks?	■	☐	☐	☐
5 Other public facilities?	■	☐	☐	☐

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

Fire protection in the City is provided by the Burbank Fire Department (BFD). The BFD, in conjunction with the City's Community Development Department Building & Safety Division, reviews site plans, construction plans, and architectural plans prior to occupancy to ensure the required fire protection safety features, including building sprinklers and emergency access, are implemented. Development with modern materials and in accordance with current standards, inclusive of fire-resistant materials, fire alarms and detection systems, automatic fire sprinklers, would enhance fire safety and would support fire protection services (Title 24, Cal. Code Regs. Part 9). The BFD has established the Fire Department Headquarters (Station 11) at 311 East Orange Grove Avenue and operates five other fire stations distributed throughout the City (City of Burbank 2013a).

Reasonably foreseeable development under the proposed Project may increase the need for fire services in areas where development would be concentrated. Potential impacts of the Housing and Safety Element Update, such as placing an unanticipated burden on fire protection services or affecting response times or service ratios, such that new or expanded fire protection facilities would be needed, will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The Burbank Police Department (BPD) provides police protection services in the City. Services include emergency and non-emergency police response, routine police patrols, investigative services, traffic enforcement, traffic investigation, and parking code enforcement. The BPD has established the Police Headquarters at 200 North Third Street, and operates the local animal shelter, a police pistol range, the City Jail, and a heliport in Sun Valley (City of Burbank 2013a). BPD has mutual aid agreements with the City of Los Angeles, San Fernando, Glendale, and Pasadena police departments (City of Burbank 2013a). BPD uses 11 patrol beats to service the City and surrounding areas if needed, and has an average emergency response time of less than four minutes, and an average response time for non-emergency calls of 16 minutes (City of Burbank 2013a).

Reasonably foreseeable development under the proposed Project may increase the need for police services in areas where development would be concentrated. Potential impacts of the Housing and Safety Element Update, such as placing an unanticipated burden on police protection services or affecting response times or service ratios, such that new or expanded police protection facilities would be needed, will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The Burbank Unified School District (BUSD) provides public school services to Burbank residents for grades kindergarten through 12 and oversees 22 schools. As discussed in Section 14, *Population and Housing*, the net increase of 10,456 units would generate an increase of approximately 25,617 new residents, some of whom would be school-aged children. The Housing and Safety Element Update would not directly affect local schools, but may generate new students entering the BUSD. Reasonably foreseeable development under the Housing and Safety Element Update could create the need for new or physically altered school facilities if student population increases beyond existing capacity. This impact would be potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

As identified in the Burbank2035 General Plan, the City contains 26 parks that total approximately 731.85 acres of parkland within the City (City of Burbank 2013a). Stough Canyon Park and Wildwood Canyon Park are the two largest parks in the City. They each serve as recreational and cultural focal points for the community at large.

The Open Space and Conservation Element of the Burbank2035 General Plan establishes a requirement for three acres of new parkland per 1,000 new residents. This requirement applies to large residential developments and would result in parkland dedications or improvements, or in-lieu payments if a project applicant is not able to dedicate land or the land is considered unsuitable for park or recreation use. The proposed Project may include large developments that would need to comply with this requirement. Therefore, development under the proposed Project may result in construction of new parks and recreation facilities. Impacts would be potentially significant and will be analyzed further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The Housing and Safety Element Update would emphasize the creation of reasonably foreseeable development in urban infill areas of the City that could increase demand for other public facilities. Impacts related to increased demand for other public facilities such as stormwater, wastewater, and utility facilities are discussed in Section 19, *Utilities and Service Systems*. Development projects can affect the need for new or physically altered public facilities and demand increases beyond existing capacity. A significant impact may occur if a project includes substantial employment or population growth that could generate a demand for other public facilities, which would exceed the capacity available to serve the City, necessitating a new or physically altered building, the construction of which would have significant physical impacts on the environment.

Adoption of the Housing and Safety Element Update may cause an exceedance of capacity at existing facilities, such as local libraries, or generate a substantial demand for them. Therefore, expansion or construction of new facilities may be required. Impacts would be potentially significant and will be analyzed further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

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16 Recreation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	■	☐
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	■	☐	☐	☐

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

As discussed in Section 15, *Public Services*, recreational amenities in Burbank include 26 parks, totaling 731.85 acres of parkland (City of Burbank 2013a). According to the DOF there are an estimated 103,969 residents in the City of Burbank (DOF 2021). With the 731.85 acres of public parkland in the City, there are approximately seven acres of parkland per 1,000 residents. The Open Space and Conservation Element of the Burbank2035 General Plan establishes a citywide parkland level of service goal of five acres of improved parkland per 1,000 residents, and a requirement applicable to new development of three acres of new parkland per 1,000 new residents.

Reasonably foreseeable development under the Housing and Safety Element Update could increase the use of existing neighborhood and regional parks. As discussed in the *Description of Project*, the proposed Project would accommodate up to 10,456 new residential units in the City, which would generate a population increase of approximately 25,617 residents. The population increase would result in a total of approximately 129,586 residents, which would increase demand for parks and recreational facilities. With the 731.85 acres of public parkland in the City, there would be approximately 5.6 acres of parkland per 1,000 residents with all forecast growth under the proposed Project. As such, the City would meet the standard of five acres per 1,000 residents. Furthermore, applicants for development projects under the proposed Project would be required to either provide parkland or pay community facilities fees to meet the standard of three acres of new parkland per 1,000 new residents. Therefore, development under the Housing Element Update would not result in substantial deterioration of existing recreation facilities, and the Safety Element and Environmental Justice updates would not result in development that would create impacts to recreational resources. Potential impacts to existing parks would be less than significant and further analysis of this issue is not warranted.

LESS THAN SIGNIFICANT IMPACT

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

As discussed in Section 15, *Public Services*, the Housing and Safety Element Update does not include goals or policies to develop additional park space. However, the Open Space and Conservation Element of the Burbank2035 General Plan establishes a requirement for three acres of new parkland per 1,000 new residents. This requirement applies to large residential developments and would result in parkland dedications or improvements, or in-lieu payments if a project applicant is not able to dedicate land or the land is considered unsuitable for park or recreation use. The proposed Project may include large developments that would need to comply with this requirement. Therefore, reasonably foreseeable development under the proposed Project may result in construction of new parks and recreation facilities. Impacts would be potentially significant and will be discussed further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	■	☐	☐	☐
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	■	☐	☐	☐
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	■	☐	☐	☐
d. Result in inadequate emergency access?	■	☐	☐	☐

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

d. Would the project result in inadequate emergency access?

The Housing and Safety Element Update would accommodate up to 10,456 new residential units in Burbank, which may allow for development of currently undeveloped parcels and for alteration, intensification, or redistribution of existing land uses. This could result in increased traffic compared to existing conditions. Trips generated as a result of increased density or reasonably foreseeable development under the proposed Project have the potential to impact intersection and roadway segments throughout the City and contribute to cumulative traffic increases. The proposed Project could also conflict with applicable plans and policies addressing the circulation system. Potential impacts related to CEQA Guidelines Section 15064 pertaining to vehicle miles traveled (VMT) and compliance with plans and policies that establish measures of effective performance of the circulation system will be evaluated in an EIR. In addition, reasonably foreseeable development under the proposed Project result in construction activities that may temporarily alter traffic patterns, and also result in long-term alterations of existing traffic patterns that may result in transportation related impacts associated with traffic hazards, incompatible uses, and emergency access. Impacts would be potentially significant and will be discussed further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	■	☐	☐	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Cod Section 2024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significant of the resource to a California Native American tribe.	■	☐	☐	☐

As of July 1, 2015, AB 52 of 2014 was enacted to expand CEQA by defining a new resource category, “tribal cultural resources.” AB 52 establishes that “a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3).

PRC Section 21074 (a)(1)(A) and (B) define tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is:

1. Listed or eligible for listing in the CRHR or in a local register of historical resources as defined in PRC Section 5020.1(k), or
2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed Project." Native American tribes to be included in the process are those that have requested notice of projects proposed within the jurisdiction of the lead agency.

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?

As discussed in Section 5, *Cultural Resources,* there is potential for reasonably foreseeable development under the proposed Project to disturb as yet undiscovered intact cultural resources, including tribal cultural resources. Although the likelihood of encountering resources is low since development would emphasize urbanized infill sites that are already disturbed, impacts would be potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	■	☐	☐	☐
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	■	☐	☐	☐
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	■	☐	☐	☐
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	■	☐	☐	☐
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	■	☐

a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

c. Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Reasonably foreseeable development under the Housing and Safety Element Update would occur in urbanized areas that are served by existing utilities infrastructure, including potable water, wastewater, stormwater drainage, electrical power, natural gas, and telecommunications facilities.

Water Supply

The Housing and Safety Element Update would accommodate reasonably foreseeable development that would require water for a variety of activities such as landscaping, controlling fugitive dust, and providing potable water to workers during construction and residents and commercial occupants of future developments. In addition, as discussed in Section 10, *Hydrology and Water Quality*, impacts related to groundwater supplies and sustainable groundwater management are potentially significant. Therefore, these issues will be studied further in an EIR.

Furthermore, as development occurs throughout the City, upgrades to water conveyance facilities may be required. The precise location and connection would need to be determined at the time development is proposed. Any future line size modifications or connections would be designed in accordance with applicable provisions of the Burbank Municipal Code and to the satisfaction of the City Engineer. However, increased development density has the potential to impact the capacities of local utilities infrastructure, which may require the expansion or construction of new facilities. In addition, under the Safety Element, expanded resiliency policy could potentially result in the relocation of critical infrastructure out of disaster-prone areas, and/or the expansion of utilities and infrastructure to improve resilience. Therefore, this issue will be studied further in an EIR.

Wastewater Generation

Wastewater treatment would be provided by existing infrastructure in the City. However, the amount of wastewater generated by project development is not known at this time and may exceed existing capacity. Similar to water supply, development has the potential to impact the capacities of the City’s wastewater treatment conveyance systems that may require the expansion or construction of new infrastructure or facilities. In addition, the updates under the Safety Element could result in relocation of critical infrastructure. Therefore, this issue will be studied further in an EIR.

Stormwater

New infill development would be located in an urban area that is served by existing stormwater drainage systems. However, increased development density has the potential to impact the capacities of local utilities infrastructure that may require the expansion or construction of new wastewater treatment and storm water drainage facilities. In addition, the updates under the Safety Element could result in relocation of critical infrastructure. Therefore, this issue will be studied further in an EIR.

Electricity, Natural Gas, and Telecommunications

Telecommunications services are provided by ONE Burbank, AT&T, EarthLink, Spectrum or other providers, at the discretion of future residents. Telecommunications are generally available in the City and facility upgrades would not likely be necessary.

Electricity is currently provided to the City by BWP and natural gas service is provided by Southern California Gas Company. Operation and occupancy of reasonably foreseeable development under the proposed Project would increase demand for electricity and natural gas compared to existing conditions. Increased development density has the potential to impact the capacities of local utilities infrastructure that may require the expansion or construction of new facilities, and updates under the Safety Element could result in relocation of critical infrastructure. Therefore, impacts would be potentially significant and this issue will be studied further in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

d. Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

The City of Burbank Street and Solid Waste Division collects, transports, and disposes of solid waste for all single-family residences, 60 percent of multi-family residences, and approximately ten percent of the City's commercial/industrial refuse customers. (City of Burbank 2009b). Solid waste from Burbank is collected by the Public Works Department and taken to either the Burbank Landfill or Burbank Recycle Center (City of Burbank 2013a). Green waste is processed and delivered to a compost facility outside of the City (City of Burbank 2009c).

Reasonably foreseeable development under the Housing and Safety Element Update would generate both construction and operational solid waste that would be disposed of at the aforementioned facilities and other collection centers. Solid waste generated by up to 10,456 new residential units could potentially exceed the capacity of these facilities. Impacts would be potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

A significant impact could occur if the Housing and Safety Element Update would conflict with any statutes and regulations governing solid waste. In compliance with State legislation, any development project under the Housing and Safety Element Update would be required to implement a Solid Waste Diversion Program and divert at least 75 percent of the solid waste generated from the applicable landfill site. Reasonably foreseeable development under the Housing and Safety Element Update would comply with Federal, State, and local statutes and regulations related to solid waste, such as the California Waste Integrated Waste Management Act (AB 939), mandatory commercial recycling (AB 341, AB 1826), and the City’s recycling program. Since development projects under the Housing Element Update would comply with applicable Federal, State, and local regulations involving solid waste, impacts related to conflict with statutes and regulations governing solid waste would be less than significant. In addition, the Safety Element and Environmental Justice updates would not result in development that would create impacts related to solid waste. Further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

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20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	■	☐
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	■	☐
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	■	☐

a. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Based on the California Fire Hazard Severity Zone (FHSZ) map, there are two areas at risk for wildfire in the City. The northeastern boundary of the City along the Verdugo Mountain range is within the FHSZ, as well as the area between the 134 Freeway and Forest Lawn Drive (CalFire 2020). The northeastern area is primarily developed with single-family residential uses, while the southern area consists of residential and commercial development and the Disney and Warner Brothers studios. The Housing and Safety Element Update would emphasize development in urbanized areas of the City that are not subject to significant wildfire risks. Such development would not conflict with an adopted emergency response plan or emergency evacuation plan. In addition, the transportation analysis will address potential traffic hazards associated with the proposed Project.

As discussed in Section 9, *Hazards and Hazardous Materials*, construction activities could interfere with adopted emergency response or evacuation plans as a result of temporary construction activities within rights-of-way. However, temporary construction barricades or other obstructions used for project development that could impede emergency access would be subject to the City's permitting process, which requires a traffic control and mitigation plan subject to City review and approval. Implementation of these plans would ensure that future development under the proposed Project would not impair or physically interfere with adopted emergency response or evacuation procedures.

Increased density in urban areas of the City under the proposed Project could result in additional traffic within area roadways. However, in the event of a wildfire, implementation of the County's 2012 Emergency Response Plan (ERP) would coordinate all the facilities and personnel of County government, along with the jurisdictional resources of the cities and special districts within the County, into an efficient organization capable of managing emergency evacuation for affected areas. In addition, the BFD's Emergency Management Division would coordinate all the facilities and personnel of the City, along with the jurisdictional resources of the surrounding cities.

The BFD would be responsible for ensuring that future development does not impair adopted emergency response or evacuation plans. As part of standard development procedures, future development plans would be submitted for review and approval to ensure that reasonably foreseeable development has adequate emergency access and escape routes in compliance with existing City regulations. Furthermore, the Housing Element Update would not introduce features or policies that would preclude implementation of or alter these policies or procedures or encourage development in VHFHSZ; the Safety Element Update would improve policies and regulations associated with emergency response or evacuation plans and wildland fires; and the Environmental Justice Updates would not result in development that would create impacts related to wildland fires. Therefore, impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

b. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

d. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Portions of the City are subject to wildland fire risk, primarily areas to the north where single-family residential development abuts the Verdugo Mountain hillsides, and at the southwestern portion of the City. Properties located within VHFHSZ as mapped by CalFire are required to minimize fire risks during the high fire season through vegetation clearance, maintenance of landscape vegetation to minimize fuel supply that would spread the intensity of a fire, compliance with provisions for emergency vehicle access, use of approved building materials and design, and compliance with the BFD's Fire Hazard Reduction Program (Burbank Fire Department 2021). The undeveloped portions of the Verdugo Mountains are generally designated for open space with no opportunities for development. Development opportunities in the hillside areas may include accessory dwelling units (ADUs) and junior ADUs on existing single-family residential sites.

The Housing and Safety Element Update would incentivize development on urban infill sites within areas well served by high quality public transit. However, it is anticipated that the proposed Project would include development of ADUs and junior ADUs in hillside areas on existing single-family residential sites. Since single-family homes have existing sufficient access for fire services, construction of any ADU or junior ADU behind these homes would be provided the same access. Therefore, development is not likely to expose project occupants to the uncontrolled spread of a wildfire or other associated risks including, but not limited to, flooding, landslides, and instability. Nonetheless, all development would be subject to applicable response plans and would be required to comply with all existing City regulations. In the event of a wildfire, the County's ERP and BFD's Emergency Management Division would coordinate all the facilities and personnel, along with the jurisdictional resources of the surrounding cities, into an efficient organization capable of managing emergency evacuation for affected areas. Furthermore, project development would be required to be constructed according to the UBC requirements for fire-protection and would be subject to review and approval by the BFD. The BFD provides several fire developments services to the City related to enforcing codes concerning new construction and remodeling, including Fire Life Safety Plan Checks and Fire Life Safety Inspections. In addition, the updates to the Safety Element specifically aim at reducing wildfire risks, and no development would occur under the Environmental Justice Updates.

Because the Housing and Safety Element Update would generally direct development away from the hillside areas with fire hazards and reasonably foreseeable development would be required to comply with fire safety provisions established by the Burbank Municipal Code, development under the proposed Project would not pose a substantial risk to people or structures due to wildland fires. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

c. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

The Housing and Safety Element Update would prioritize reasonably foreseeable development in urban areas of the City near existing high-quality public transit infrastructure. As such, the proposed Project would not encourage development in the residential areas subject to wildfire risk, and development would occur in areas that are well-served by existing roadways and utilities infrastructure. Therefore, development under the Housing Element Update would not require additional roads, fuel breaks, emergency water sources, power lines or other utilities that would exacerbate fire risk; and the Safety Element and Environmental Justice updates would not result in development that would create impacts related to fire risks. Impacts would be less than significant and further analysis of this issue in an EIR is not warranted.

LESS THAN SIGNIFICANT IMPACT

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21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	■	☐	☐	☐
b. Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	■	☐	☐	☐
c. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	■	☐	☐	☐

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

Reasonably foreseeable development under the Housing and Safety Element Update may involve alteration, intensification, and redistribution of land uses in the City of Burbank. While proposed changes could have the potential to have a substantial adverse effect on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, the proposed Project focuses on infill development and not on the hillsides or slopes of the Verdugo Mountains. As such, proposed changes are in fact unlikely to have any significant impact. As discussed in Section 5, *Cultural Resources*, Section 7, *Geology and Soils*, and Section 18, *Tribal*

Cultural Resources, development under the Housing and Safety Element Update have the potential to impact historical, archaeological, paleontological, and tribal cultural resources. Since the Housing and Safety Element Update has the potential to degrade the quality of the environment, including plants, animals, and potential cultural and historical resources, this impact is potentially significant and will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

As discussed in Sections 1 through 20, implementation of the Housing and Safety Element Update and could result in significant impacts to air quality, cultural resources, geology and soils, GHG emissions, hazards and hazardous materials, noise, population and housing, public services, recreation, transportation and traffic, and utilities and service systems. Potential cumulative impacts in these issue areas, for which potentially significant impacts have been identified, will be further analyzed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

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

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise. As discussed in Section 3, *Air Quality*, operation of reasonably foreseeable development under the proposed Project could potentially generate criteria pollutant emissions exceeding the SCAQMD regional thresholds for operation and construction activities under the Housing and Safety Element Update may expose sensitive receptors in the City to substantial pollutant concentrations. As discussed in Section 9, *Hazards and Hazardous Materials*, there is the potential for future construction to involve the demolition or alteration of structures that may contain asbestos and/or LBP, and residential construction under the Housing and Safety Element Update could lead to a significant hazard to the public or environment by exposing future residents to potential on-site contamination if not properly identified. As discussed in Section 13, *Noise*, construction of developments under the Housing and Safety Element Update could generate temporary noise levels in excess of allowable City standards and potentially exceed operational thresholds for receiving land uses and sensitive receivers, if located nearby. Because implementation of the Housing and Safety Element Update could potentially have harmful environmental effects that could affect humans either directly or indirectly, impacts would be potentially significant and these issues will be discussed in an EIR.

POTENTIALLY SIGNIFICANT IMPACT

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List of Preparers

Rincon Consultants, Inc. prepared this Initial Study under contract to the City of Burbank. Persons involved in data gathering analysis, project management, and quality control are listed below.

RINCON CONSULTANTS, INC.

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Susanne Huerta, Supervising Planner, Project Manager
Daphne Virlar-Knight, Associate Planner

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Appendix C

Health Risk Assessment Calculations
(Due to the large files, modeling outputs are only available upon request)

*HARP - HRACalc v21081 10/13/2021 3:47:52 PM - Cancer Risk - Input File: C:\Users\mmcnamara\OneDrive - Rincon Consultants\Desktop\HARP Projects\BURBANK HE SR134\hra\Cancer_Res_HRAInput.hra

REC	GRP	NETID	Description	X	Y	RISK_SUM	MERV-13 Filtration I-5	MAX NChronic	MAX NAcute
401	SENSITIV	SR	R SR-1 Floor 1	376431	3779890	7.56E-06	2.53	0.01	0.03
402	SENSITIV	SR	R SR-1 Floor 2	376431	3779890	7.37E-06	2.46	0.01	0.03
403	SENSITIV	SR	R SR-1 Floor 3	376431	3779890	6.09E-06	2.04	0.01	0.03
404	SENSITIV	SR	R SR-1 Floor 4	376431	3779890	4.29E-06	1.43	0.00	0.02
405	SENSITIV	SR	R SR-1 Floor 5	376431	3779890	2.65E-06	0.89	0.00	0.02
406	SENSITIV	SR	R SR-1 Floor 6	376431	3779890	1.53E-06	0.51	0.00	0.01
407	SENSITIV	SR	R SR-1 Floor 7	376431	3779890	8.96E-07	0.30	0.00	0.01
408	SENSITIV	SR	R SR-2 Floor 1	376462	3779901	8.59E-06	2.87	0.01	0.03
409	SENSITIV	SR	R SR-2 Floor 2	376462	3779901	8.38E-06	2.80	0.01	0.03
410	SENSITIV	SR	R SR-2 Floor 3	376462	3779901	6.81E-06	2.27	0.01	0.03
411	SENSITIV	SR	R SR-2 Floor 4	376462	3779901	4.65E-06	1.56	0.01	0.02
412	SENSITIV	SR	R SR-2 Floor 5	376462	3779901	2.78E-06	0.93	0.00	0.02
413	SENSITIV	SR	R SR-2 Floor 6	376462	3779901	1.58E-06	0.53	0.00	0.01
414	SENSITIV	SR	R SR-2 Floor 7	376462	3779901	9.29E-07	0.31	0.00	0.01
415	SENSITIV	SR	R SR-3 Floor 1	376484	3779902	8.87E-06	2.97	0.01	0.03
416	SENSITIV	SR	R SR-3 Floor 2	376484	3779902	8.67E-06	2.90	0.01	0.03
417	SENSITIV	SR	R SR-3 Floor 3	376484	3779902	7.02E-06	2.35	0.01	0.03
418	SENSITIV	SR	R SR-3 Floor 4	376484	3779902	4.77E-06	1.59	0.01	0.02
419	SENSITIV	SR	R SR-3 Floor 5	376484	3779902	2.83E-06	0.94	0.00	0.02
420	SENSITIV	SR	R SR-3 Floor 6	376484	3779902	1.60E-06	0.54	0.00	0.01
421	SENSITIV	SR	R SR-3 Floor 7	376484	3779902	9.42E-07	0.31	0.00	0.01
422	SENSITIV	SR	R SR-4 Floor 1	376490	3779887	7.87E-06	2.63	0.01	0.03
423	SENSITIV	SR	R SR-4 Floor 2	376490	3779887	7.71E-06	2.58	0.01	0.03
424	SENSITIV	SR	R SR-4 Floor 3	376490	3779887	6.41E-06	2.14	0.01	0.03
425	SENSITIV	SR	R SR-4 Floor 4	376490	3779887	4.51E-06	1.51	0.01	0.02
426	SENSITIV	SR	R SR-4 Floor 5	376490	3779887	2.76E-06	0.92	0.00	0.02
427	SENSITIV	SR	R SR-4 Floor 6	376490	3779887	1.58E-06	0.53	0.00	0.01
428	SENSITIV	SR	R SR-4 Floor 7	376490	3779887	9.22E-07	0.31	0.00	0.01
429	SENSITIV	SR	R SR-5 Floor 1	376477	3779874	7.03E-06	2.35	0.01	0.03
430	SENSITIV	SR	R SR-5 Floor 2	376477	3779874	6.89E-06	2.30	0.01	0.03
431	SENSITIV	SR	R SR-5 Floor 3	376477	3779874	5.85E-06	1.95	0.01	0.03
432	SENSITIV	SR	R SR-5 Floor 4	376477	3779874	4.23E-06	1.42	0.00	0.02
433	SENSITIV	SR	R SR-5 Floor 5	376477	3779874	2.66E-06	0.89	0.00	0.02
434	SENSITIV	SR	R SR-5 Floor 6	376477	3779874	1.54E-06	0.52	0.00	0.01
435	SENSITIV	SR	R SR-5 Floor 7	376477	3779874	8.99E-07	0.30	0.00	0.01
436	SENSITIV	SR	R SR-6 Floor 1	376455	3779865	6.44E-06	2.15	0.01	0.02
437	SENSITIV	SR	R SR-6 Floor 2	376455	3779865	6.32E-06	2.11	0.01	0.02
438	SENSITIV	SR	R SR-6 Floor 3	376455	3779865	5.44E-06	1.82	0.01	0.03
439	SENSITIV	SR	R SR-6 Floor 4	376455	3779865	4.02E-06	1.34	0.00	0.02
440	SENSITIV	SR	R SR-6 Floor 5	376455	3779865	1.52E-06	0.51	0.00	0.01
441	SENSITIV	SR	R SR-6 Floor 6	376455	3779865	8.85E-07	0.30	0.00	0.01
442	SENSITIV	SR	R SR-6 Floor 7	376455	3779865	6.44E-06	2.15	0.01	0.02
443	SENSITIV	SR	R SR-7 Floor 1	376433	3779865	6.16E-06	2.06	0.01	0.02
444	SENSITIV	SR	R SR-7 Floor 2	376433	3779865	5.29E-06	1.77	0.01	0.03
445	SENSITIV	SR	R SR-7 Floor 3	376433	3779865	3.92E-06	1.31	0.00	0.02
446	SENSITIV	SR	R SR-7 Floor 4	376433	3779865	2.54E-06	0.85	0.00	0.02
447	SENSITIV	SR	R SR-7 Floor 5	376433	3779865	1.50E-06	0.50	0.00	0.01
448	SENSITIV	SR	R SR-7 Floor 6	376433	3779865	8.74E-07	0.29	0.00	0.01
449	SENSITIV	SR	R SR-7 Floor 7	376433	3779865	6.27E-06	2.10	0.01	0.02
450	SENSITIV	SR	R SR-8 Floor 1	376427	3779881	6.83E-06	2.28	0.01	0.02
451	SENSITIV	SR	R SR-8 Floor 2	376427	3779881	5.74E-06	1.92	0.01	0.03
452	SENSITIV	SR	R SR-8 Floor 3	376427	3779881	4.13E-06	1.38	0.00	0.02
453	SENSITIV	SR	R SR-8 Floor 4	376427	3779881	2.59E-06	0.87	0.00	0.02
454	SENSITIV	SR	R SR-8 Floor 5	376427	3779881	1.51E-06	0.50	0.00	0.01
455	SENSITIV	SR	R SR-8 Floor 6	376427	3779881	8.82E-07	0.29	0.00	0.01
456	SENSITIV	SR	R SR-8 Floor 7	376427	3779881	7.00E-06	2.34	0.01	0.03

GRP	NETID	X	Y	Description	I-5	MERV-13 Filtration I-5	BWP_lvl1	BWP_lvl2	BWP_lvl3	BWP_lvl4	BWP_lvl5	BWP_lvl6	BWP_lvl7	BWP_lvl8	TOTAL CANCER SUM	MAX NChronic I-5	MAX NAcute I-5	MAX NChronic BWP	MAX NAcute BWP
SENSITIV	SR	378572.5	3783633	TOD3 SR-1 Floor 1	1.17E-05	3.90	0.89	0.89	0.90	0.90	0.90	0.90	0.91	0.91	4.80	0.011	0.032	0.001	0.002
SENSITIV	SR	378593	3783654	TOD3 SR-2 Floor 1	8.94E-06	2.99	0.91	0.91	0.91	0.91	0.92	0.92	0.92	0.93	3.90	0.008	0.030	0.001	0.002
SENSITIV	SR	378610.2	3783671	TOD3 SR-3 Floor 1	7.37E-06	2.46	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.94	3.38	0.007	0.028	0.001	0.002
SENSITIV	SR	378661.5	3783628	TOD3 SR-4 Floor 1	7.32E-06	2.45	1.01	1.01	1.01	1.02	1.02	1.03	1.03	1.04	3.45	0.007	0.030	0.001	0.002
SENSITIV	SR	378701.1	3783591	TOD3 SR-5 Floor 1	7.35E-06	2.46	1.08	1.08	1.08	1.09	1.10	1.10	1.11	1.12	3.53	0.007	0.031	0.001	0.003
SENSITIV	SR	378678.1	3783572	TOD3 SR-6 Floor 1	9.61E-06	3.21	1.08	1.08	1.09	1.09	1.10	1.11	1.11	1.12	4.29	0.009	0.032	0.001	0.003
SENSITIV	SR	378649.3	3783560	TOD3 SR-7 Floor 1	9.57E-06	3.20	1.06	1.06	1.07	1.07	1.08	1.08	1.09	1.10	4.25	0.009	0.031	0.001	0.003
SENSITIV	SR	378641.2	3783579	TOD3 SR-8 Floor 1	8.85E-06	2.96	1.03	1.03	1.04	1.04	1.05	1.05	1.06	1.07	3.99	0.009	0.030	0.001	0.003
SENSITIV	SR	378631.7	3783604	TOD3 SR-9 Floor 1	1.07E-05	3.59	1.00	1.00	1.00	1.01	1.01	1.02	1.02	1.03	4.59	0.010	0.032	0.001	0.003
SENSITIV	SR	378614.2	3783626	TOD3 SR-10 Floor 1	1.01E-05	3.37	0.96	0.96	0.96	0.96	0.97	0.97	0.98	0.98	4.32	0.010	0.031	0.001	0.003
SENSITIV	SR	378808.1	3783487	TOD4 SR-1 Floor 1	6.85E-06	2.29	1.16	1.17	1.18	1.19	1.20	1.21	1.22	1.24	3.45	0.006	0.030	0.001	0.003
SENSITIV	SR	378853	3783449	TOD4 SR-2 Floor 1	6.32E-06	2.11	1.11	1.12	1.13	1.14	1.15	1.16	1.18	1.19	3.22	0.006	0.030	0.001	0.003
SENSITIV	SR	378881.8	3783408	TOD4 SR-3 Floor 1	6.57E-06	2.19	1.05	1.06	1.07	1.08	1.10	1.11	1.13	1.14	3.25	0.006	0.029	0.001	0.003
SENSITIV	SR	378924.8	3783385	TOD4 SR-4 Floor 1	5.76E-06	1.92	0.91	0.91	0.92	0.93	0.94	0.96	0.97	0.98	2.83	0.005	0.028	0.001	0.004
SENSITIV	SR	378896.2	3783345	TOD4 SR-5 Floor 1	7.69E-06	2.57	1.02	1.03	1.04	1.06	1.08	1.09	1.11	1.13	3.59	0.007	0.030	0.001	0.004
SENSITIV	SR	378870.3	3783316	TOD4 SR-6 Floor 1	1.02E-05	3.42	1.13	1.14	1.16	1.18	1.20	1.23	1.25	1.28	4.55	0.010	0.032	0.001	0.004
SENSITIV	SR	378830	3783284	TOD4 SR-7 Floor 1	1.19E-05	3.99	1.28	1.30	1.32	1.35	1.38	1.41	1.45	1.49	5.27	0.011	0.030	0.001	0.004
SENSITIV	SR	378812.8	3783325	TOD4 SR-8 Floor 1	1.52E-05	5.08	1.31	1.33	1.34	1.37	1.39	1.42	1.45	1.49	6.39	0.014	0.035	0.001	0.004
SENSITIV	SR	378793.7	3783373	TOD4 SR-9 Floor 1	1.06E-05	3.53	1.31	1.32	1.33	1.35	1.37	1.39	1.42	1.44	4.84	0.010	0.031	0.001	0.004
SENSITIV	SR	378775.6	3783426	TOD4 SR-10 Floor 1	9.17E-06	3.06	1.27	1.28	1.29	1.31	1.32	1.34	1.36	1.38	4.33	0.009	0.031	0.001	0.003
SENSITIV	SR	378785.3	3783463	TOD4 SR-11 Floor 1	9.44E-06	3.16	1.22	1.23	1.24	1.25	1.26	1.28	1.29	1.31	4.38	0.009	0.032	0.001	0.003
SENSITIV	SR	378846	3783181	TOD5 SR-1 Floor 1	1.16E-05	3.88	1.16	1.19	1.22	1.26	1.31	1.37	1.43	1.50	5.04	0.011	0.027	0.001	0.005
SENSITIV	SR	378829	3783223	TOD5 SR-2 Floor 1	1.56E-05	5.22	1.27	1.30	1.33	1.36	1.41	1.46	1.51	1.57	6.49	0.015	0.031	0.001	0.005
SENSITIV	SR	378849	3783222	TOD5 SR-3 Floor 1	1.30E-05	4.36	1.19	1.21	1.24	1.27	1.31	1.36	1.41	1.46	5.55	0.012	0.030	0.001	0.005
SENSITIV	SR	378876	3783197	TOD5 SR-4 Floor 1	1.19E-05	3.97	1.04	1.06	1.08	1.12	1.15	1.20	1.25	1.30	5.01	0.011	0.029	0.001	0.005
SENSITIV	SR	378902	3783173	TOD5 SR-5 Floor 1	1.52E-05	5.08	0.87	0.88	0.91	0.93	0.97	1.01	1.05	1.10	5.95	0.014	0.033	0.001	0.004
SENSITIV	SR	378930	3783142	TOD5 SR-6 Floor 1	1.43E-05	4.77	0.67	0.68	0.70	0.72	0.75	0.78	0.82	0.86	5.44	0.013	0.032	0.001	0.005
SENSITIV	SR	378957	3783118	TOD5 SR-7 Floor 1	9.99E-06	3.34	0.52	0.53	0.54	0.56	0.58	0.60	0.63	0.66	3.86	0.009	0.028	0.001	0.004
SENSITIV	SR	378962	3783080	TOD5 SR-8 Floor 1	1.09E-05	3.63	0.44	0.45	0.46	0.48	0.50	0.52	0.54	0.57	4.08	0.010	0.029	0.000	0.005
SENSITIV	SR	378937	3783053	TOD5 SR-9 Floor 1	1.45E-05	4.84	0.47	0.47	0.49	0.51	0.53	0.56	0.59	0.63	5.30	0.013	0.031	0.001	0.005
SENSITIV	SR	378917	3783050	TOD5 SR-10 Floor 1	1.19E-05	3.98	0.52	0.53	0.55	0.58	0.61	0.65	0.69	0.75	4.51	0.011	0.027	0.001	0.005
SENSITIV	SR	378900	3783073	TOD5 SR-11 Floor 1	1.75E-05	5.85	0.65	0.66	0.69	0.72	0.76	0.81	0.87	0.94	6.50	0.016	0.031	0.001	0.005
SENSITIV	SR	378884	3783095	TOD5 SR-12 Floor 1	1.22E-05	4.09	0.79	0.80	0.83	0.87	0.92	0.98	1.05	1.13	4.88	0.011	0.027	0.001	0.005
SENSITIV	SR	378867	3783127	TOD5 SR-13 Floor 1	1.39E-05	4.66	0.96	0.98	1.01	1.06	1.11	1.17	1.25	1.33	5.62	0.013	0.028	0.001	0.005
SENSITIV	SR	378856	3783154	TOD5 SR-14 Floor 1	1.75E-05	5.84	1.07	1.10	1.13	1.17	1.23	1.29	1.36	1.43	6.91	0.016	0.032	0.001	0.005
SENSITIV	SR	378841.4	3783279	TOD6 SR-1 Floor 1	1.11E-05	3.72	1.24	1.26	1.28	1.31	1.34	1.38	1.41	1.45	4.97	0.010	0.030	0.001	0.004
SENSITIV	SR	378931.6	3783377	TOD6 SR-2 Floor 1	5.74E-06	1.92	0.88	0.89	0.90	0.90	0.92	0.93	0.94	0.96	2.80	0.005	0.028	0.001	0.004
SENSITIV	SR	378819.4	3783491	TOD6 SR-3 Floor 1	6.29E-06	2.10	1.14	1.15	1.16	1.17	1.18	1.19	1.20	1.21	3.24	0.006	0.030	0.001	0.003
SENSITIV	SR	378884.2	3783456	TOD6 SR-4 Floor 1	5.34E-06	1.78	1.02	1.03	1.03	1.04	1.05	1.06	1.07	1.09	2.80	0.005	0.028	0.001	0.003
SENSITIV	SR	378963.8	3783411	TOD6 SR-5 Floor 1	4.51E-06	1.51	0.77	0.77	0.78	0.78	0.79	0.80	0.81	0.82	2.27	0.004	0.026	0.001	0.003
SENSITIV	SR	379050.2	3783500	TOD6 SR-6 Floor 1	2.68E-06	0.90	0.53	0.53	0.53	0.53	0.54	0.54	0.54	0.54	1.42	0.002	0.022	0.000	0.003
SENSITIV	SR	379002.7	3783424	TOD6 SR-7 Floor 1	3.82E-06	1.28	0.64	0.64	0.65	0.65	0.66	0.66	0.67	0.68	1.92	0.004	0.026	0.001	0.003
SENSITIV	SR	379079.6	3783354	TOD6 SR-8 Floor 1	3.63E-06	1.21	0.41	0.42	0.42	0.42	0.43	0.43	0.43	0.44	1.63	0.003	0.025	0.000	0.003
SENSITIV	SR	379148.6	3783422	TOD6 SR-9 Floor 1	2.50E-06	0.84	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.34	1.16	0.002	0.021	0.000	0.003
SENSITIV	SR	379070.3	3783325	TOD6 SR-10 Floor 1	4.00E-06	1.34	0.42	0.42	0.43	0.43	0.43	0.44	0.44	0.45	1.76	0.004	0.025	0.000	0.003
SENSITIV	SR	379012.6	3783327	TOD6 SR-11 Floor 1	4.77E-06	1.59	0.57	0.57	0.58	0.58	0.59	0.60	0.61	0.62	2.16	0.004	0.026	0.001	0.004
SENSITIV	SR	379022	3783271	TOD6 SR-12 Floor 1	5.42E-06	1.81	0.50	0.51	0.51	0.52	0.53	0.53	0.54	0.55	2.31	0.005	0.027	0.000	0.004
SENSITIV	SR	378981.7	3783227	TOD6 SR-13 Floor 1	7.30E-06	2.44	0.59	0.60	0.61	0.62	0.63	0.64	0.66	0.68	3.03	0.007	0.029	0.001	0.004
SENSITIV	SR	379046.9	3783168	TOD6 SR-14 Floor 1	6.55E-06	2.19	0.36	0.37	0.37	0.38	0.38	0.39	0.40	0.41	2.55	0.006	0.029	0.000	0.004
SENSITIV	SR	378997.4	3783125	TOD6 SR-15 Floor 1	9.80E-06	3.28	0.42	0.43	0.44	0.45	0.46	0.47	0.49	0.51	3.70	0.009	0.031	0.000	0.005
SENSITIV	SR	378959.1	3783155	TOD6 SR-16 Floor 1	1.10E-05	3.67	0.58	0.59	0.60	0.61	0.63	0.66	0.68	0.71	4.24	0.010	0.031	0.001	0.004
SENSITIV	SR	378909.6	3783200	TOD6 SR-17 Floor 1	1.30E-05	4.33	0.87	0.88	0.90	0.93	0.96	0.99	1.03	1.07	5.20	0.012	0.032	0.001	0.004
SENSITIV	SR	378844.5	3783260	TOD6 SR-18 Floor 1	1.15E-05	3.85	1.23	1.25	1.27	1.30	1.34	1.37	1.42	1.46	5.08	0.011	0.030	0.001	0.004
SENSITIV	SR	379232	3782792	TOD10a SR-1 Floor 1	1.17E-05	3.92	0.25	0.25	0.25	0.25	0.25	0.26	0.26	0.27	4.16	0.011	0.028	0.000	0.005
SENSITIV	SR	379256	3782818	TOD10a SR-2 Floor 1	8.79E-06	2.94	0.24	0.24	0.24	0.24	0.25	0.25	0.25	0.26	3.18	0.008	0.027	0.000	0.004
SENSITIV	SR	379289	3782823	TOD10a SR-3 Floor 1	1.02E-05	3.42	0.23	0.23	0.23	0.24	0.24	0.24	0.24	0.25	3.65	0.010	0.029	0.000	0.004
SENSITIV	SR	379314	3782801	TOD10a SR-4 Floor 1	1.01E-05	3.39	0.22	0.23	0.23	0.23	0.23	0.23	0.24	0.24	3.61	0.009	0.029	0.000	0.004
SENSITIV	SR	379342	3782777	TOD10a SR-5 Floor 1	1.03E-05	3.43	0.22	0.22	0.22	0.22	0.22	0.22	0.23	0.23	3.64	0.010	0.029	0.000	0.004
SENSITIV	SR	379344	3782748	TOD10a SR-6 Floor 1	1.31E-05	4.39	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.23	4.61	0.012	0.030	0.000	0.004
SENSITIV	SR	379325	3782727	TOD10a SR-7 Floor 1	1.18E-05	3.95	0.22	0.22	0.22	0.22	0.22	0.22	0.23	0.23	4.17	0.011	0.027	0.000	0.004
SENSITIV	SR	379289	3782727	TOD10a SR-8 Floor 1	1.49E-05	4.99	0.23	0.23	0.23	0.23	0.23	0.23	0.24	0.24	5.21	0.014	0.029	0.000	0.004
SENSITIV	SR	379269	3782742	TOD10a SR-9 Floor 1	1.37E-05	4.58	0.23	0.23	0.23	0.24	0.24	0.24	0.25	0.25	4.81	0.013	0.028	0.000	0.004
SENSITIV	SR	379240	3782764	TOD10a SR-10 Floor 1	9.75E-06	3.26	0.24	0.24	0.24	0.25	0.25	0.25	0.26	0.26	3.50	0.009	0.024	0.000	0.005
SENSITIV	SR	379333.8	3782699	TOD10b SR-1 Floor 1	1.33E-05	4.43	0.21	0.21	0.22	0.22	0.22	0.22	0.22	0.22	4.64	0.013	0.028	0.000	0.004
SENSITIV	SR	379348.8	3782726	TOD10b SR-2 Floor 1	9.90E-06	3.31	0.21	0.21	0.21	0.22	0.22	0.22	0.22	0.22	3.52	0.009	0.026	0.000	0.004
SENSITIV	SR	379370.7	3782748	TOD10b SR-3 Floor 1	1.12E-05	3.73	0.21	0.21	0.21	0.21	0.21	0.21	0.22	0.22	3.94	0.010	0.029	0.000	0.004
SENSITIV	SR	379413.5	3782710	TOD10b SR-4 Floor 1	7.90E-06	2.64	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.21	2.84	0.007	0.024	0.000	0.004
SENSITIV	SR	379450.3	3782677	TOD10b SR-5 Floor 1	7.90E-06	2.64	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	2.83	0.007	0.023	0.000	0.004
SENSITIV	SR	379428.7	3782653	TOD10b SR-6 Floor 1	9.94E-06	3.32	0.19	0.19	0.19	0.19	0.19	0.19	0.20	0.20	3.51	0.009	0.025	0.000	0.004
SENSITIV	SR	379408.6	3782631	TOD10b SR-7 Floor 1	1.27E-05	4.23	0.19	0.19	0.19	0.19	0.19	0.20	0.20	0.20	4.42	0.012	0.027	0.000	0.004
SENSITIV	SR	379389.5	3782643	TOD10b SR-8 Floor 1	1.24E-05	4.15	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	4.34	0.012	0.027	0.000	0.004
SENSITIV	SR	379369	3782661	TOD10b SR-9 Floor 1	1.24E-05	4.14	0.20	0.20	0.20	0.20	0.21	0.21	0.21	0.21	4.34	0.012	0.027	0.000	0.004
SENSITIV	SR	379347.3	3782687	TOD10b SR-10 Floor 1	1.27E-05	4.24	0.21	0.21	0.21	0.21	0.21	0.22	0.22	0.22	4.46	0.012	0.028	0.000	0.004
SENSITIV	SR	379523	3782649	PF SR-1 Floor 1	7.82E-06	2.61	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	2.79	0.007	0.023	0.000	0.003
SENSITIV	SR	379519	3782661	PF SR-2 Floor 1	7.55E-06	2.52	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	2.70	0.007	0.023	0.000	0.003
SENSITIV	SR	379532	3782658	PF SR-3 Floor 1	7.12E-06	2.38	0.18	0.17	0.17	0.18	0.18	0.18	0.18	0.18	2.56	0.007	0.023	0.000	0.003
SENSITIV	SR	379547	3782644	PF SR-4 Floor 1	6.99E-06	2.33	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	2.51	0.006	0.022	0.000	0.003
SENSITIV	SR	379552	3782632	PF SR-5 Floor 1	7.17E-06	2.40	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	2.57	0.007	0.023	0.000	0.003
SENSITIV	SR	379542	3782632	PF SR-6 Floor 1	7.61E-06	2.54	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	2.72	0.007	0.023	0.000	0.003
SENSITIV	SR	378686	3782175	TOD 11			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15				0.000	0.005
SENSITIV	SR	378706	3782197	TOD 11			0.15	0.16	0.16	0.15	0.15	0.15	0.16	0.16				0.000	0.005
SENSITIV	SR	378727	3782219	TOD 11			0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16				0.000	0.005
SENSITIV	SR	378747	3782242	TOD 11			0.16	0.17	0.17	0.16	0.17	0.17	0.17	0.17				0.000	0.006
SENSITIV	SR	378767	3782264	TOD 11			0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17				0.000	0.007
SENSITIV	SR	378783	3782281	TOD 11			0.17	0.18	0.17	0.17	0.18	0.18	0.18	0.18				0.000	0.007
SENSITIV	SR	378805	3782261	TOD 11			0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.18				0.000	0.007
SENSITIV	SR	378828	3782242	TOD 11			0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17				0.000	0.006
SENSITIV	SR	378849	3782224	TOD 11			0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17				0.000	0.005
SENSITIV	SR	378840	3782213	TOD 11			0.16	0.17	0.17	0.16	0.16	0.17	0.17	0.17				0.000	0.005
SENSITIV	SR	378831	3782195	TOD 11			0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16				0.000	0.005
SENSITIV	SR	378820	3782168	TOD 11			0.15	0.16	0.16	0.16	0.16	0.16	0.16	0.16				0.000	0.005
SENSITIV	SR	378806	3782145	TOD 11			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15				0.000	0.005
SENSITIV	SR	378785	3782124	TOD 11			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15				0.000	0.005
SENSITIV	SR	378764	3782102	TOD 11			0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14				0.000	0.005
SENSITIV	SR	378744	3782080	TOD 11			0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14				0.000	0.005
SENSITIV	SR	378728	3782064	TOD 11			0.13	0.14	0.14	0.14	0.13	0.13	0.13	0.14				0.000	0.005
SENSITIV	SR	378718	3782092	TOD 11			0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14				0.000	0.005
SENSITIV	SR	378707	3782120	TOD 11			0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14				0.000	0.005
SENSITIV	SR	378697	3782148	TOD 11			0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15				0.000	0.005

Adjusted Potential Carcinogenic Health Risks Within the Project Site Calculation

		Factor	
EF =	Exposure frequency in days per year	350	
EFa =	Exp. Freq adjusted outside; only 2.1 hours/day outside	30.6	USEPA Exposure Factors Handbook
EFai =	Exp. Freq adjusted inside; 16.4 hours/day inside	239.2	USEPA Exposure Factors Handbook
FE =	Filter Efficiency	90%	
DPM =	Percent of risk associated with DPM	71%	

Equation = Mitigated Risk = ([Unmitigated Risk]/EF*Efa)+((1-(FE*DPM))*([Unmitigated Risk]/EF*Efai))

Time Spent Indoors

Time Spent Outdoors

Age Gr	**Mean (min/day)**
Birth to	0
1 to 2 y	36
2 to 3 y	76
3 to 6 y	107
6 to 11	132
11 to 16	100
16 to 21	102
18 to 64	281
>64 yea	298
Average	126
Hours F	**2.1**

Time Spent Indoors at Residence

Age Group	**Mean (min/day)**
Birth to 1 year	1,108
1 to 2 years	1,065
2 to 3 years	979
3 to 6 years	957
6 to 11 years	893
11 to 16 years	889
16 to 21 years	833
18 to 64 years	948
>64 years	1,175
Average	983
Hours Per Day	**16.4**

Emissions Calculations - SR 134

AADT	**AADT per direction**	**Caltrans Truck %**	**Number daily trucks**	**Diesel Truck ***	**Gas Truck ***	**LD Vehicles**	**LD Diesel ****	**All Gas**
214,500	107,250	4.70%	5,041	552	4,489	102,209	201	106,497

Source: Caltrans Traffic Data E Source: Caltrans Traffic Data Branch, 2018 AADT and Truck Traffic 2018

** Light Duty Diesel proportion based on vehicle miles traveled for LDA, LDT1, and LDT2 for Year 2024, South Coast AQMD, EMFAC2017.

Diesel Proportion:	11.0%
Non-Diesel Proportion:	89.0%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
50 mph for trucks (TOG), 65 mph for trucks (PM), 50 mph for light duty (TOG), 65 mph for light duty (PM), 65 for gas (TOG)	0.0248	0.0248	0.0061	0.0124	0.0157

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG										
Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.12	0.04	0.56	0.00	1.34	57.61	3.83	15.11	1.00	23.75

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for SR 134 Sources

Freeway width, one way	76.8	feet	23.4	m
Each direction segment at	393.7	feet long	120	m

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	14.9	57.73	3.86	15.66	1.00	25.09
lbs/hour/segment	0.000102	0.000395	0.000026	0.000107	0.000007	0.000172
lbs/day/segment	0.002448	0.009489	0.000635	0.002575	0.0001651	0.004124
lbs/year/segment ***	0.893528	3.463627	0.231893	0.939733	0.060258	1.505154

Segment 14				
Freeway width, one way	76.8	feet	23.4	m
Each direction segment at	198.8	feet long	60.6	m

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	14.9	57.73	3.86	15.66	1.00	25.09
lbs/hour/segment	0.000052	0.00020	0.000013	0.00005	0.000003	0.00009
lbs/day/segment	0.0012	0.0048	0.0003	0.0013	0.0001	0.0021
lbs/year/segment ***	0.451232	1.749132	0.117106	0.474565	0.030430	0.760103

** Total emissions per mile calculated using the above speciation factors.

*** Based on 365 day/year

HARP ID: **9901** **71432** **106990** **75070** **107028** **50000**

Emissions Calculations - I-5

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
219,500	109,750	6.57%	7,205	789	6,416	102,545	169	108,792

Source: Caltrans Traffic Data Branch, 2019 AADT and 2019 Truck Traffic . Traffic and truck percentage represent average of back and ahead counts.

** Light Duty Diesel proportion based on vehicle miles traveled for LDA, LDT1, and LDT2 for Year 2024, South Coast AQMD, EMFAC2017.

Diesel Proportion:	10.9%
Non-Diesel Proportion:	89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
50 mph for trucks (TOG), 65 mph for trucks (PM), 50 mph for light duty (TOG), 65 mph for light duty (PM), 65 for gas (TOG)	0.0248	0.0248	0.0057	0.0124	0.0157

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion of VOC

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.16	0.05	0.75	0.00	1.79	58.85	3.91	15.43	1.03	24.26

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for I-5 Sources

NORTHBOUND SEGMENTS

Freeway width, one way	80.7 feet	24.6 m
Each direction segment at	656.2 feet long	200 m

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	20.5	59.01	3.96	16.18	1.03	26.05
lbs/hour/segment	0.000234	0.000674	0.000045	0.000185	0.000012	0.000297
lbs/day/segment	0.005617	0.016167	0.001085	0.004432	0.0002811	0.007137
lbs/year/segment ***	2.050302	5.900872	0.395993	1.617613	0.102594	2.605063

Freeway width, one way	69.9 feet	21.3 m
Each direction segment at	656.2 feet long	200 m

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	20.5	59.01	3.96	16.18	1.03	26.05
lbs/hour/segment	0.000234	0.00067	0.000045	0.00018	0.000012	0.00030
lbs/day/segment	0.0056	0.0162	0.0011	0.0044	0.0003	0.0071
lbs/year/segment ***	2.050302	5.900872	0.395993	1.617613	0.102594	2.605063

Freeway width, one way	86 feet	26.1 m
Each direction segment at	656.2 feet long	200 m

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	20.5	59.01	3.96	16.2	1.03	26.05

lbs/hour/segment	0.000234	0.000674	0.000045	0.000185	0.000012	0.000297
lbs/day/segment	0.005617	0.016167	0.0011	0.0044	0.0003	0.0071
lbs/year/segment ***	2.050302	5.900872	0.395993	1.617613	0.102594	2.605063

SOUTHBOUND SEGMENTS

Freeway width, one way	81 feet	24.6 m
Each direction segment at	328.1 feet long	100 m

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	20.5	59.01	3.96	16.2	1.03	26.05
lbs/hour/segment	0.000117	0.000337	0.000023	0.000092	0.000006	0.000149
lbs/day/segment	0.002809	0.008083	0.0005	0.0022	0.0001	0.0036
lbs/year/segment ***	1.025151	2.950436	0.197996	0.808807	0.051297	1.302531

Freeway width, one way	70 feet	21.3 m
Each direction segment at	328.1 feet long	100 m

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	20.5	59.01	3.96	16.2	1.03	26.05
lbs/hour/segment	0.000117	0.000337	0.000023	0.000092	0.000006	0.000149
lbs/day/segment	0.002809	0.008083	0.0005	0.0022	0.0001	0.0036
lbs/year/segment ***	1.025151	2.950436	0.197996	0.808807	0.051297	1.302531

Freeway width, one way	86 feet	26.1 m
Each direction segment at	328.1 feet long	100 m

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	20.5	59.01	3.96	16.2	1.03	26.05
lbs/hour/segment	0.000117	0.000337	0.000023	0.000092	0.000006	0.000149
lbs/day/segment	0.002809	0.008083	0.0005	0.0022	0.0001	0.0036
lbs/year/segment ***	1.025151	2.950436	0.197996	0.808807	0.051297	1.302531

** Total emissions per mile calculated using the above speciation factors.

*** Based on 365 day/year

HARP ID:	**9901**	**71432**	**106990**	**75070**	**107028**	**50000**

Emissions Calculations - Ramp #1 (Seg 5 NB off to EB Burbank Blvd.)

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
5,600	5,600	6.93%	388	42	346	5,212	43	5,515

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from I-10 west of I-110)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	10.9%
Non-Diesel Proportion:	89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
35	0.0104	0.0441	0.0068	0.0185	0.0164

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.02	0.01	0.09	0.00	0.22	3.12	0.21	0.82	0.05	1.29

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #1 (Seg 5 NB off to EB Burbank Blvd.)

Ramp width, one way	42.3 feet	12.9 m	2 lanes
Each direction segment at	295.3 feet long	90 m	

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	0.7	3.14	0.21	0.91	0.05	1.51
lbs/hour/segment	0.000004	0.00002	0.000001	0.000005	0.0000003	0.000008
lbs/day/segment	0.0001	0.0004	0.0000	0.0001	0.0000	0.0002
lbs/year/segment ***	0.032873	0.141278	0.009602	0.040913	0.002448	0.067730

Emissions Calculations - Ramp #2 (Seg 5 NB off to WB Burbank Blvd.)

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
7,260	7,260	3.46%	251	27	224	7,009	58	7,175

Source: Caltrans Traffic Data Branch, 2008 Ramp AADT and Truck Traffic 2017 (Percentage from I-10 east of I-110)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion: 10.9%

Non-Diesel Proportion: 89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
35	0.0104	0.0441	0.0068	0.0185	0.0164

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.02	0.01	0.08	0.00	0.19	4.06	0.27	1.06	0.07	1.67

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #2 (Seg 5 NB off to WB Burbank Blvd.)

Ramp width, one way	44.9 feet	13.7 m	2 lanes
Each direction segment at	328.1 feet long	100 m	

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	0.7	4.08	0.27	1.14	0.07	1.86
lbs/hour/segment	0.000004	0.00002	0.000002	0.000007	0.0000004	0.00001
lbs/day/segment	0.0001	0.0006	0.0000	0.0002	0.0000	0.0003
lbs/year/segment ***	0.03380	0.203796	0.013745	0.057107	0.003538	0.093012

Emissions Calculations - Ramp #3 (Seg 5 SB off to Burbank Blvd.)

AADT	**AADT per direction**	**Caltrans Truck %**	**Number daily trucks**	**Diesel Truck ***	**Gas Truck ***	**LD Vehicles**	**LD Diesel ****	**All Gas**
6,859	6,859	8.01%	549	60	489	6,310	52	6,747

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from weighted average of I-10 east of I-110 and west of I-110 based on WB and EB contribution)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	10.9%
Non-Diesel Proportion:	89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
35	0.0104	0.0441	0.0068	0.0185	0.0164

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.03	0.01	0.12	0.00	0.30	3.82	0.25	1.00	0.07	1.57

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #3 (Seg 5 SB off to Burbank Blvd.)

Ramp width, one way	64.6 feet	19.7 m	3 lane
Each direction segment at	262.5 feet long	80 m	

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	1.0	3.84	0.26	1.12	0.07	1.87
lbs/hour/segment	0.00000	0.00002	0.000001	0.000005	0.0000003	0.00001
lbs/day/segment	0.0001	0.0004	0.0000	0.0001	0.0000	0.0002
lbs/year/segment ***	0.039181	0.153741	0.010476	0.045000	0.002662	0.074876

Emissions Calculations - Ramp #4 (SB on from EB Burbank Blvd.)

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
15,468	15,468	6.93%	1,072	117	955	14,396	119	15,232

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from I-110 north of I-10)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	10.9%
Non-Diesel Proportion:	89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
50	0.0133	0.0248	0.0057	0.0124	0.0128

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.03	0.01	0.15	0.00	0.36	6.75	0.45	1.77	0.12	2.78

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #4 (SB on from EB Burbank Blvd.)

Ramp width, one way	37.7 feet	11.5 m	2 lane
Each direction segment at	131.2 feet long	40 m	

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	2.2	6.78	0.46	1.92	0.12	3.15
lbs/hour/segment	0.000005	0.00002	0.000001	0.00000	0.0000003	0.00001
lbs/day/segment	0.0001	0.0004	0.0000	0.0001	0.0000	0.0002
lbs/year/segment ***	0.044736	0.135672	0.009173	0.038418	0.002354	0.062903

Emissions Calculations - Ramp #5 (SB on from WB Burbank Blvd.)

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
7,882	7,882	6.93%	546	60	486	7,336	61	7,761

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from I-110 south of I-10)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	10.9%
Non-Diesel Proportion:	89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
50	0.0133	0.0248	0.0057	0.0124	0.0128

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.02	0.01	0.08	0.00	0.19	3.44	0.23	0.90	0.06	1.42

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #5 (SB on from WB Burbank Blvd.)

Ramp width, one way	48.2 feet	14.7 m	2 lane
Each direction segment at	328.1 feet long	100 m	

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	1.1	3.46	0.23	0.98	0.06	1.60
lbs/hour/segment	0.00001	0.00002	0.000001	0.000006	0.0000003	0.00001
lbs/day/segment	0.0002	0.0005	0.0000	0.0001	0.0000	0.0002
lbs/year/segment ***	0.057455	0.172817	0.011686	0.048967	0.002998	0.080200

Emissions Calculations - Ramp #6 (Seg 5 NB on from Olive Ave.)

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
8,619	8,619	6.93%	597	65	532	8,022	67	8,487

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from I-110 south of I-10)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	10.9%
Non-Diesel Proportion:	89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
50	0.0133	0.0248	0.0057	0.0124	0.0128

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.02	0.01	0.08	0.00	0.20	3.76	0.25	0.99	0.07	1.55

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #6 (Seg 5 NB on from Olive Ave.)

Ramp width, one way	40.0 feet	12.2 m	1 lane
Each direction segment at	262.5 feet long	80 m	

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	1.2	3.78	0.26	1.07	0.07	1.75
lbs/hour/segment	0.000006	0.00002	0.000001	0.000005	0.0000003	0.00001
lbs/day/segment	0.0001	0.0004	0.0000	0.0001	0.0000	0.0002
lbs/year/segment ***	0.049937	0.151188	0.010222	0.042818	0.002623	0.070114

Emissions Calculations - Ramp #7 (Seg 5 SB off to Verdugo Ave.)

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
3,880	3,880	6.93%	269	29	240	3,611	30	3,821

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from I-110 south of I-10)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	10.9%
Non-Diesel Proportion:	89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
35	0.0104	0.0441	0.0068	0.0185	0.0164

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.01	0.00	0.06	0.00	0.15	2.16	0.14	0.57	0.04	0.89

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #7 (Seg 5 NB off to Verdugo Ave.)

Ramp width, one way	39.4 feet	12 m	1 lane
Each direction segment at	328.1 feet long	100 m	

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	0.5	2.18	0.15	0.63	0.04	1.04
lbs/hour/segment	0.000003	0.00001	0.0000008	0.000004	0.0000002	0.000006
lbs/day/segment	0.0001	0.0003	0.0000	0.0001	0.0000	0.0001
lbs/year/segment ***	0.025379	0.108755	0.007392	0.031499	0.001884	0.052147

Emissions Calculations - Ramp #8 (Seg 5 SB on from Verdugo Ave.)

AADT	**AADT per direction**	**Caltrans Truck %**	**Number daily trucks**	**Diesel Truck ***	**Gas Truck ***	**LD Vehicles**	**LD Diesel ****	**All Gas**
8,619	8,619	6.93%	597	65	532	8,022	67	8,487

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from I-110 south of I-10)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	10.9%
Non-Diesel Proportion:	89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
50	0.0133	0.0248	0.0057	0.0124	0.0128

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.02	0.01	0.08	0.00	0.20	3.76	0.25	0.99	0.07	1.55

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #8 (Seg 5 NB on from Verdugo Ave.)

Ramp width, one way	49.5 feet	15.1 m	1 lane
Each direction segment at	98.4 feet long	30 m	

Emissions

	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	1.2	3.78	0.26	1.07	0.07	1.75
lbs/hour/segment	0.000002	0.000006	0.0000004	0.000002	0.0000001	0.000003
lbs/day/segment	0.0001	0.0002	0.0000	0.0000	0.0000	0.0001
lbs/year/segment ***	0.018726	0.056695	0.003833	0.016057	0.000984	0.026293

Emissions Calculations - Ramp #9 (Seg 5 NB off to Olive Ave.)

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
10,913	10,913	6.93%	756	83	673	10,157	85	10,745

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from I-110 south of I-10)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	10.9%
Non-Diesel Proportion:	89.1%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
35	0.0104	0.0441	0.0068	0.0185	0.0164

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.04	0.01	0.18	0.00	0.43	6.08	0.40	1.59	0.11	2.51

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #9 (Seg 5 NB off to Olive Ave.)

Ramp width, one way	33.8 feet	10.3 m	1 lane
Each direction segment at	98.4 feet long	30 m	

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	1.4	6.12	0.42	1.77	0.11	2.94
lbs/hour/segment	0.000002	0.00001	0.0000007	0.000003	0.0000002	0.000005
lbs/day/segment	0.0001	0.0003	0.0000	0.0001	0.0000	0.0001
lbs/year/segment ***	0.021639	0.091761	0.006239	0.026608	0.001590	0.044075

Emissions Calculations - Ramp #10 (Seg 134 WB on from W Alameda Dr.)

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
1,001	1,001	6.93%	69	18	51	932	8	975

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from I-110 south of I-10)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	25.8%
Non-Diesel Proportion:	74.2%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
50	0.0133	0.0248	0.0057	0.0124	0.0128

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.00	0.00	0.02	0.00	0.04	0.43	0.03	0.11	0.01	0.18

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #10 (Seg 134 WB on from W Alameda Dr.)

Ramp width, one way	60.7 feet	18.5 m	2 lanes
Each direction segment at	98.4 feet long	30 m	

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	0.3	0.44	0.03	0.13	0.01	0.22
lbs/hour/segment	0.0000005	0.000001	0.00000005	0.0000002	0.00000001	0.0000004
lbs/day/segment	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
lbs/year/segment ***	0.004266	0.006543	0.000449	0.001980	0.000113	0.003346

Emissions Calculations - Ramp #11 (Seg 134 EB on from Riverside Dr.)

AADT	AADT per direction	Caltrans Truck %	Number daily trucks	Diesel Truck *	Gas Truck *	LD Vehicles	LD Diesel **	All Gas
7,821	7,821	6.93%	542	140	402	7,279	61	7,620

Source: Caltrans Traffic Data Branch, 2014 Ramp AADT and Truck Traffic 2017 (Percentage from I-110 south of I-10)

* "Translation Factors" (the fractions below identify % of trucks that are diesel-powered; they translate Caltrans truck data into an estimate of diesel vehicles)

Diesel Proportion:	25.8%
Non-Diesel Proportion:	74.2%

Source: Portion of Diesel Truck Vehicles vs. Non-Diesel Truck Vehicles based on EMFAC2021 aggregate VMT

	Truck Diesel Vehicles		Light Duty Diesel Vehicles		All Gas Vehicles
Speed (miles/hour)	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust PM (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**	**hot stabilized exhaust TOG (grams/mile)**
50	0.0133	0.0248	0.0057	0.0124	0.0128

Source: EMFAC2021 Emissions Database

Mobile Source Air Toxics (MSAT) Speciation Factors Based on Proportion In TOG

Analysis Year	**Diesel**					**Non-Diesel**				
	Hot Stabilized Exhaust					**Hot Stabilized Exhaust**				
	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde	benzene	1,3-butadiene	Acetaldehyde	Acrolein	Formaldehyde
2029	0.007320	0.002292	0.034383	0.006088	0.082668	0.034539	0.002295	0.009056	0.000602	0.014238
Total Daily Emissions, g/mi	0.03	0.01	0.15	0.00	0.35	3.38	0.22	0.89	0.06	1.39

Speciation Source: U.S. Environmental Protection Agency Motor Vehicle Emission Simulator (MOVES2014).

Derivation of Emission Rates for Sources: Ramp #11 (Seg 134 EB on from Riverside Dr.)

Ramp width, one way	45.9 feet	14 m	1 lane
Each direction segment at	98.4 feet long	30 m	

	Emissions					
	Diesel PM	Benzene	1,3-Butadiene	Acetaldehyde	Acrolein	Formaldehyde
grams/mi/day **	2.2	3.41	0.23	1.03	0.06	1.74
lbs/hour/segment	0.000004	0.000006	0.0000004	0.000002	0.0000001	0.000003
lbs/day/segment	0.0001	0.0001	0.0000	0.0000	0.0000	0.0001
lbs/year/segment ***	0.033203	0.051128	0.003512	0.015465	0.000883	0.026127

Appendix E

Transportation Assessment

Burbank Housing Element Update

Transportation Assessment

Prepared for:
City of Burbank

November 8, 2021

LA20-3200

FEHR PEERS

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1. Introduction

This study was completed in support of the 2021 Housing Element Update for the City of Burbank. This transportation assessment provides the background and analysis to inform the City-required Environmental Impact Report (EIR) for consideration of the Housing Element Update. This transportation assessment is not a general analysis of transportation in Burbank. It is a project-specific assessment performed in compliance with the rules and regulations of CEQA and the City of Burbank.

The California Department of Housing and Community Development (HCD) has established that the 6th Cycle of the Housing Element for jurisdictions in the Southern California (SCAG) region will plan for the period of October 15, 2021 – October 15, 2029. The City must demonstrate that it has the policies and strategies as well as the land capacity necessary to meet the City's housing needs. The proposed update to the Burbank Housing Element (Project) has been prepared in response to the State's requirements. As part of the 6th Cycle Housing Element, the City has prepared a Suitable Sites Inventory (SSI) which identifies potential sites that could be redeveloped with housing. A detailed land use analysis based on existing land use throughout the City, current development activity, adopted plans, and the SSI was conducted by City staff. Land use data for the 2029 With Project scenario was provided by the City for use in this study.

This report describes the City's existing transportation and circulation system and mobility options, describes where housing can potentially be accommodated in the City per the Housing Element Update SSI, the assumptions and methodologies for the analysis, and the results of the transportation assessment.

1.1 Study Scope

In accordance with the California Environmental Quality Act (CEQA) and City transportation assessment requirements, this study analyzes the Project's effect on vehicle miles traveled (VMT) as the primary metric of assessing the potential for the Project to result in significant transportation impacts. Section 15064.3 of the CEQA Guidelines was added by the Office of Planning and Research (OPR) on December 28, 2018, and states that vehicle miles traveled (VMT) is the appropriate measure of transportation impacts for projects subject to CEQA. Section 15064.3(c) also states that the provisions of this section shall apply prospectively (i.e., only applicable to new projects after the date of adoption) and must be implemented statewide by July 1, 2020. Since the City of Burbank has not yet adopted its own VMT metrics and thresholds, this study is consistent with the approach provided in the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) and interim City guidance based on discussions with City staff.

Because Section 15064.3 requires that intersection level of service (LOS) cannot be used to assess the potential significance of transportation impacts under CEQA, the intersection LOS contained in this report is provided as a local transportation assessment outside of the CEQA process to aid the community and decisionmakers in understanding the Project's potential effect on the City's roadway system.

As required by State CEQA guidance, a programmatic and qualitative assessment of the potential for the Project to increase hazards due to a geometric design feature, inadequate emergency access or inconsistency with plans, programs, ordinances, and policies is also included. This study also assesses the potential for transportation impacts of one alternative to the proposed Project.

1.2 Organization of Report

This report is divided into five chapters, including this introduction. **Chapter 2 – Transportation Environmental Setting** describes the existing transportation system and mobility options in Burbank (including the roadway network, public transit, bicycle/pedestrian facilities). **Chapter 3 – Future Analysis Scenarios** describes the scenarios analyzed for this Project. **Chapter 4 – Transportation Impact Analysis** provides the VMT impact analysis, identifies potential mitigation measures and presents other CEQA-required transportation analyses conducted for the Project. **Chapter 5 – Local Transportation Assessment** provides the local roadway intersection LOS analysis conducted for the Project. Appendices contain supporting technical documentation and data.

2. Transportation Environmental Setting

This section describes the existing and future (2029) transportation environmental setting for the City of Burbank. The transportation environmental setting includes the existing transportation network, including automobile, transit, bicycle, and pedestrian facilities, and planned and funded transportation improvements.

2.1 Existing Street and Highway System

The roadway network serving the City consists of the roadway classifications listed below. The functional classification of streets, as defined in the Mobility Element of the Burbank General Plan, is illustrated in **Figure 1**.

- **Freeways** are major regional connectors designed to accommodate longer, regional trips with limited local access. The freeway system in the City of Burbank is owned and operated by Caltrans and is limited to Interstate 5 and State Route 134.
- **Major and Secondary Arterial Streets** are generally defined as having at least two lanes in each direction along with a median turn lane. The width of Major and Secondary Arterial Streets is usually 68-76 feet with a typical parkway width of 6-16 feet.
- **Downtown Collectors** are generally defined as having one lane in each direction along with a median turn lane. The width of Downtown Collectors is usually 44-60 feet with a typical parkway width of 12-15 feet. Such streets are in the downtown commercial core of the City and prioritize people walking over all other modes.
- **Neighborhood Collectors or Locals** are generally defined as having one lane in each direction and no median turn lane. The width of Neighborhood Collectors or Locals is usually 36 feet with a typical parkway width of 12 feet. Such streets are typically intended for vehicle trips that start or end in the immediate vicinity of the street.

2.2 Existing Transit System

Transit service is provided by multiple transit operators, including LA Metro, Burbank Bus, and Metrolink:

- **LA Metro** is the primary transit operator in Los Angeles County, providing bus, light rail, and subway services. LA Metro provides Rapid, Express and Local bus lines within the City of Burbank. Headways for Rapid buses are typically 10 minutes during peak hours, and 20 minutes during off-peak times. Express buses operate during peak commute hours only.
- **Burbank Bus** provides additional local bus service within the City of Burbank. The three routes comprising the Burbank Bus system connect key destinations, including: the Media District, two LA Metro subway stations, two Metrolink stations, and the Bob Hope Airport.

- **Metrolink** provides commuter rail service throughout the greater Southern California region. The Metrolink system includes three stations within the City of Burbank. Metrolink service focuses on the peak commute hours but also provides some off-peak service.

2.3 Existing Bicycle and Pedestrian Facilities

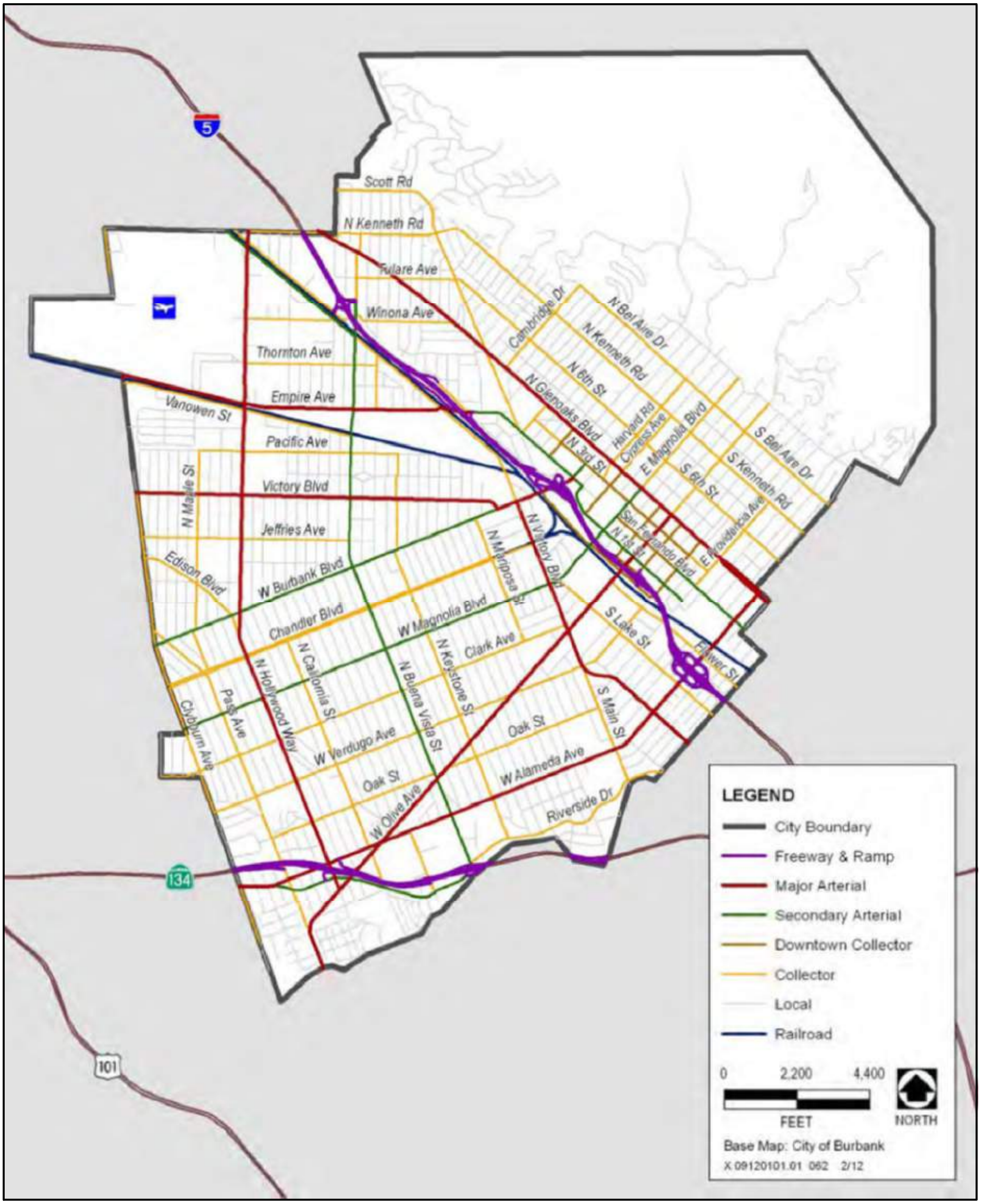
The City's commitment to providing safe and comfortable bicycle infrastructure is laid out in the *City of Burbank Bicycle Master Plan* (City of Burbank, 2009).

Bicycle infrastructure in the City includes a network of on-street bicycle lanes and routes, as well as off-street paths, intended to increase access to citywide destinations, cyclist safety and citywide ridership. The bicycle network in the City is made up of the following facility types:

- **Class I Bike Paths** provide a completely separated right-of-way for the exclusive use by people walking and biking.
- **Class II Bike Lanes** are striped lanes that provide dedicated space for people biking on the roadway adjacent to auto and bus traffic.
- **Class III Bike Routes** are shared-use roadways where autos and bikes mix in the travel lane.

The City's bicycle network is mainly comprised of Class II and Class III facilities. The primary Class I facility in the City is the Chandler Bikeway. The network of existing and planned bicycle facilities in the City is shown in **Figure 2**.

Pedestrian infrastructure includes a nearly citywide network of sidewalks and marked crosswalks that improve the safety, comfort and visibility of people walking. Pedestrian facilities in the City include sidewalks, crosswalks, and multi-use paths.



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Source: Burbank 2035 General Plan

Figure 1

Existing Roadway Network

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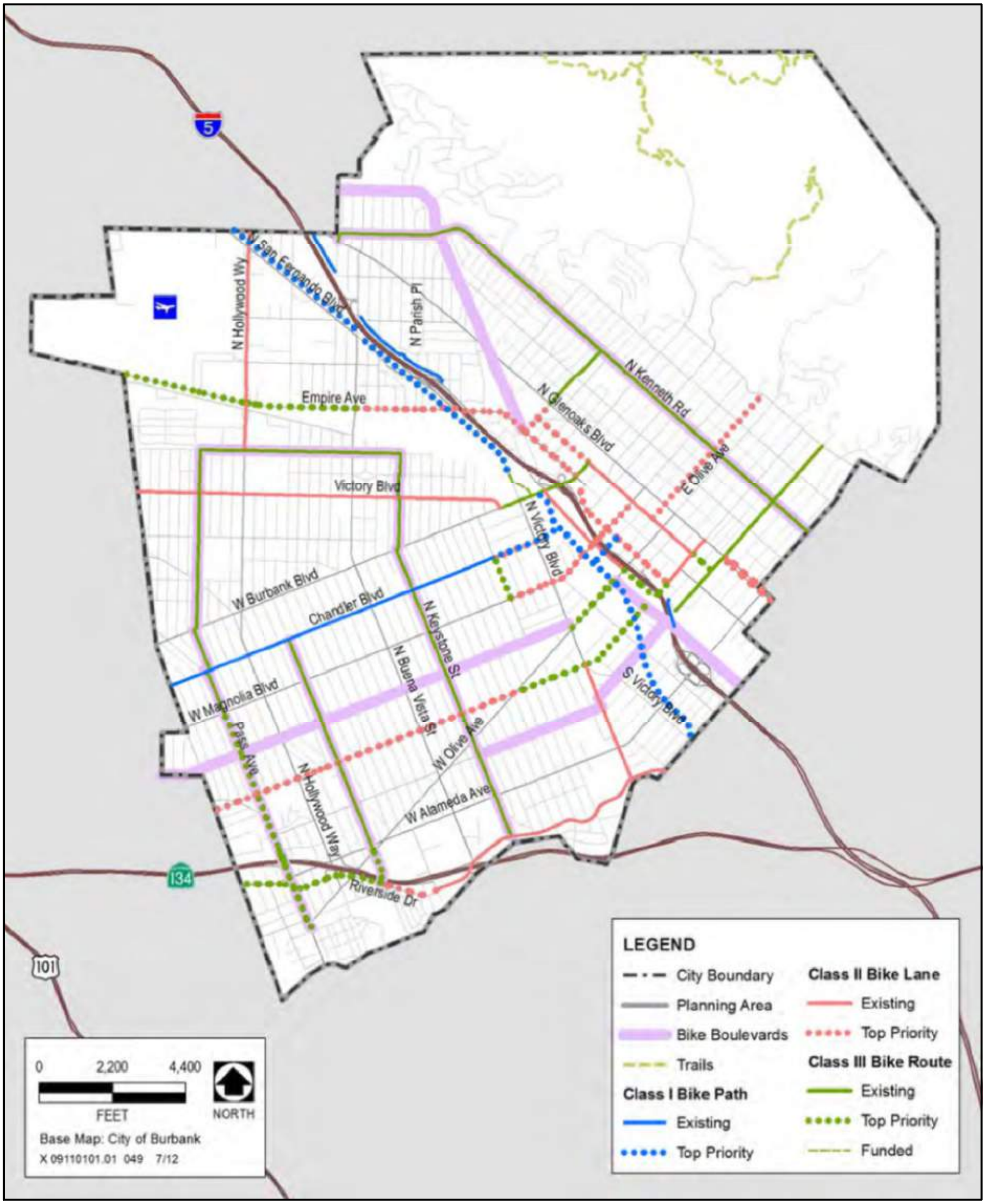

Source: Burbank 2035 General Plan

Figure 2

Burbank2035 Future (Top Priority) Bikeway Network

3. Future Analysis Scenarios

3.1 Housing Element Update Project

The proposed Housing Element lays out the strategic plan for the development of housing to meet the City's state-mandated Regional Housing Needs Allocation (RHNA). This transportation study analyzes an increase in population of 21,103 and an increase in employment of 12,420 resulting from the Project's increase of 10,456 households and supporting commercial space.

3.2 Baseline (2021) Scenario

For this study, a Baseline (2021) scenario was created[1] and modeled using the 2016-2040 RTP/SCS SCAG travel demand model[2]. The land use and socio-economic data in the 2016 base year model was updated to represent the Baseline (2021) scenario using a straight-line interpolation of the forecasted population and employment growth between the 2016 base year and the 2040 horizon year from the SCAG model.

3.3 Future With Project (2029) Scenario

Table 1 presents the land use and socio-economic assumptions for the Future With Project (2029) scenario that was provided by the City for use in this study. **Figure 3** and **Figure 4** show the projected changes in households and commercial space across the City under the Future With Project scenario relative to the Baseline scenario.

Table 1 – Future (2029) Land Use and Population Assumptions

Category	Baseline	Future With Project	Percent Change from Baseline
Population	108,347	129,450	19%
Employment	119,073	131,493	10%
Total Households	44,471	53,028	19%

Source: 2016-2040 RTP/SCS SCAG Model, Fehr & Peers, 2021.

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[1] Household growth for the Housing Element project was determined in consultation with City staff and is based on a linear interpolation of the 2016-2040 RTP/SCS SCAG model socioeconomic data between the 2016 base year model scenario and the 2040 horizon year model scenario. The household growth the City attributed to the 2016-2029 period was 10,456 households. For CEQA compliance, the VMT analysis is required to adjust the baseline to the year of the NOP release, in this case 2021. Therefore, the household growth for the 2021-2029 period, adjusted using the linear interpolation approach, is 8,557 households.

[2] The 2020-2045 RTP/SCS SCAG travel demand model has not yet been released. Therefore, the 2016-2040 RTP/SCS SCAG travel demand model was the latest available regional travel demand model to perform the VMT analysis for this project.

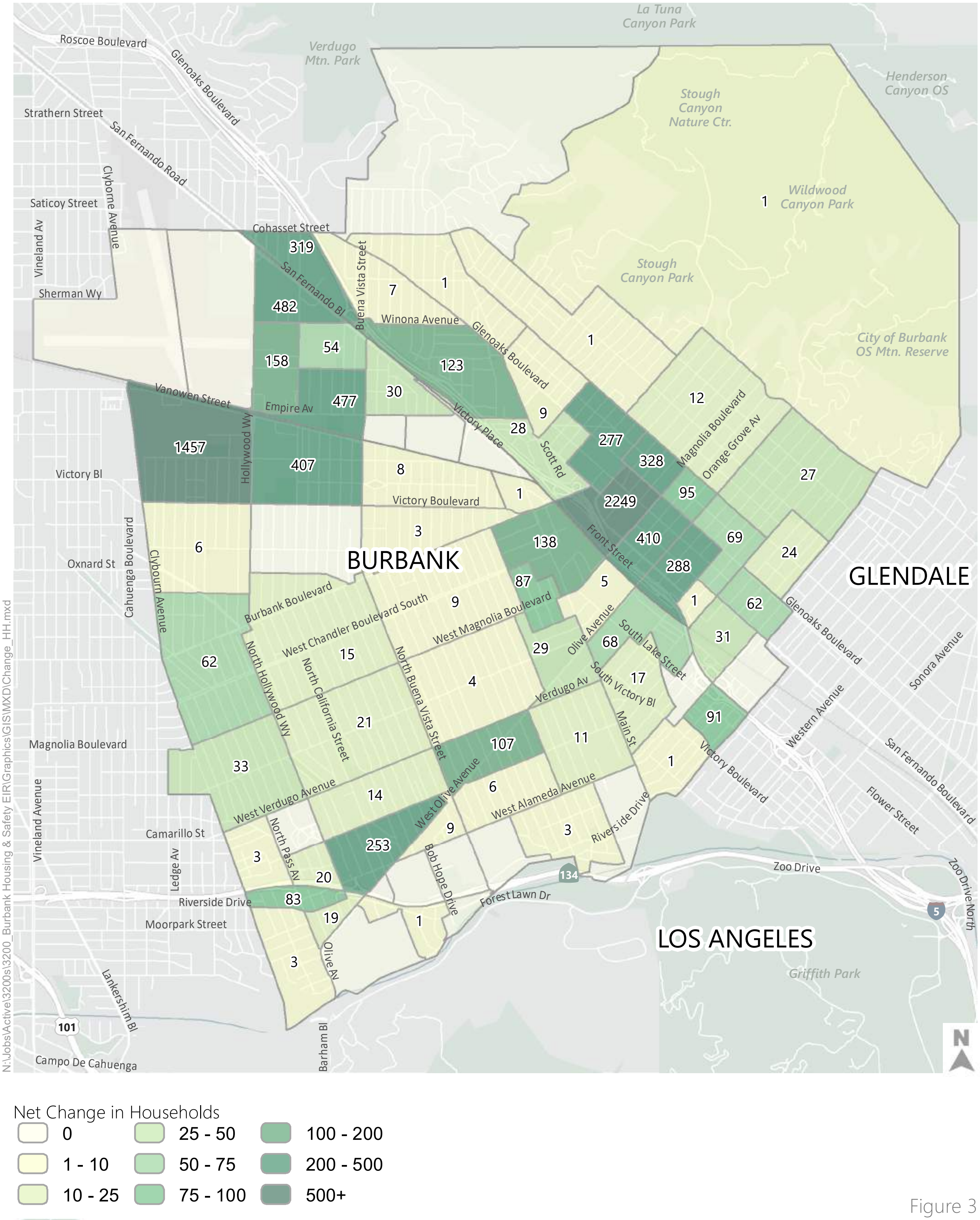

Figure 3

Future (2029) with Project Change in Households

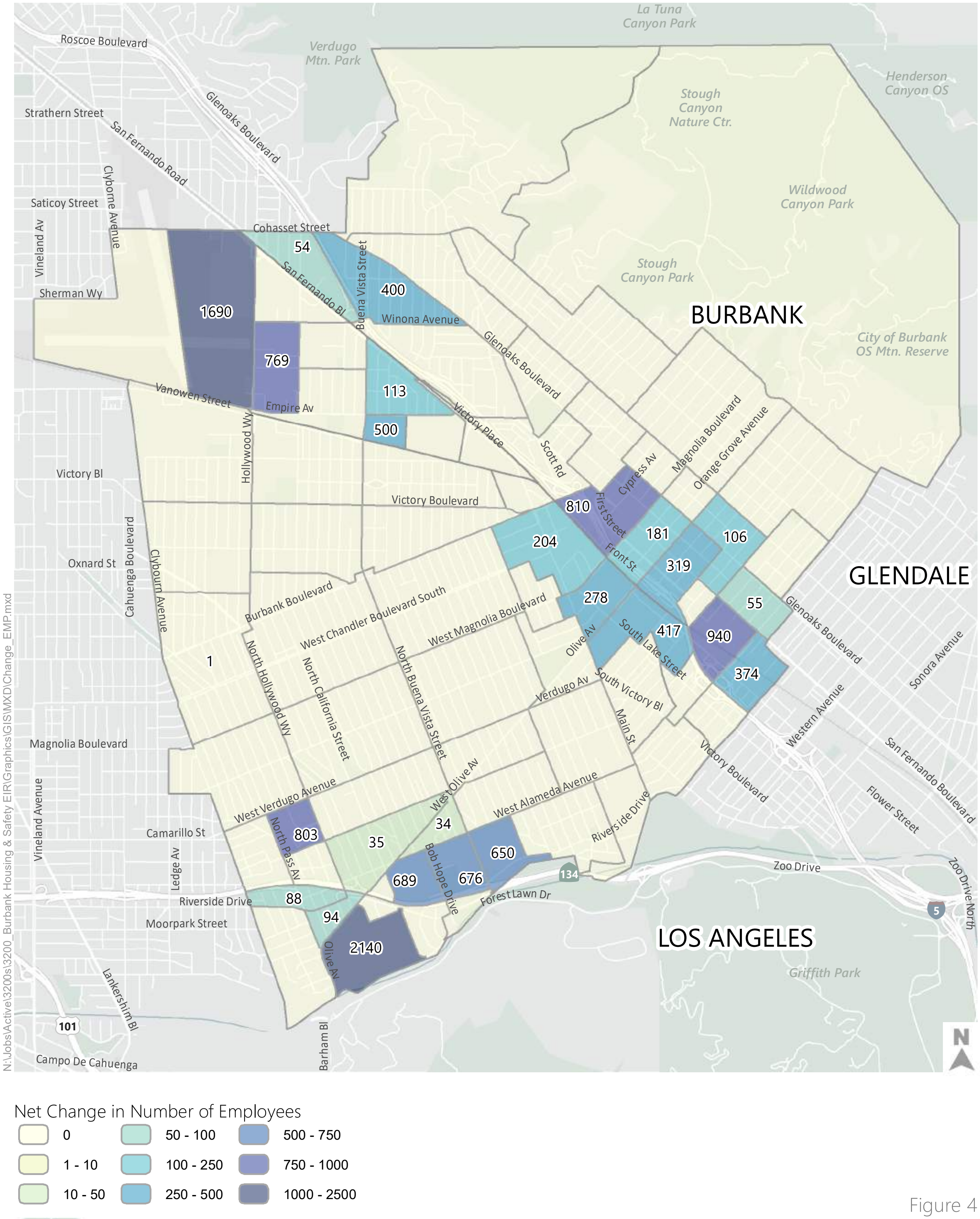

Figure 4

Future (2029) with Project Change in Employment

4. Transportation Impact Analysis

This chapter documents the transportation impact analysis conducted to determine the potential for the proposed Project, implementation of the Housing Element Update, to result in significant transportation impacts under CEQA. The methodologies and threshold criteria were determined in consultation with City staff and based on standard OPR guidance.

Section 15064.3 of the CEQA Guidelines was added by the Office of Planning and Research (OPR) on December 28, 2018, and states that vehicle miles traveled (VMT) is the appropriate measure of transportation impacts for projects subject to CEQA. Section 15064.3(c) also states that the provisions of the section shall apply prospectively (i.e., only applicable to new projects after the date of adoption) and must be implemented statewide by July 1, 2020. Since the City of Burbank has not yet adopted its own VMT metrics and thresholds, this study is consistent with the approach provided in the OPR *Technical Advisory on Evaluating Transportation Impacts in CEQA* (December 2018) and interim City guidance based on discussions with City staff. The analytical methods and significance thresholds, which are outlined as follows, are applied to the proposed Project. As required by CEQA, the potential for the Project to result in significant transportation impacts related to geometric design features, inadequate emergency access or inconsistency with plans, programs, ordinances, and policies was also assessed.

4.1 Background on VMT

VMT measures the cumulative distance of automobile travel, considering the origin and destination of a particular trip. Typically, development located at a greater distance from other land uses and in areas without transit and active transportation options generates more VMT than development near other land uses with more robust transportation options. As noted by OPR, mitigation to reduce VMT can include designing projects with a mix of uses, building transportation demand management (TDM) features into the project, locating the project in neighborhoods that have transit or active transportation opportunities, or contributing to the creation of such opportunities. Since VMT is sensitive to regional location, it can also be mitigated by choosing a more central location for the project. Used as a transportation metric under CEQA, VMT can encourage reductions in motor vehicle travel, increases in transit and active transportation use, and increase infill development opportunities.

For many years, VMT information has been utilized to help measure other CEQA impacts, including air quality and greenhouse gas emissions for individual projects. This is the first long-range plan analyzed by the City since the adoption of new VMT-based CEQA transportation impact methods and metrics in 2020.

4.2 VMT Significance Thresholds

City staff have determined a set of three VMT significance thresholds to apply to the Project, consistent with standard OPR guidance.

4.2.1 Threshold 1: VMT per Capita

The Project's VMT per capita must not exceed 15 percent below the baseline regional average VMT per capita. The baseline regional average VMT per capita is calculated using the 2016-2040 RTP/SCS SCAG model, interpolated to the baseline year (2021).

4.2.2 Threshold 2: VMT per Employee

The Project's VMT per employee must not exceed 15 percent below the baseline regional average VMT per employee. The baseline regional average VMT per employee is calculated using the 2016-2040 RTP/SCS SCAG model, interpolated to the baseline year (2021).

4.2.3 Threshold 3: Total VMT per Service Population

The Project's total VMT per service population[3] must not exceed 15 percent below the baseline regional average total VMT per service population. The baseline regional average total VMT per service population is calculated using the 2016-2040 RTP/SCS SCAG model, interpolated to the baseline year (2021).

If the Project exceeds any of these thresholds it is considered to have a significant transportation impact on the environment. City staff decided to include all three thresholds to provide a comprehensive understanding of potential VMT impacts caused by the Project.

4.3 VMT Calculation Methodology and Estimation

The 2016-2040 RTP/SCS SCAG model is calibrated to represent trip generation by various land use types, traffic volumes on local roadways, trip lengths, and the overall distribution and origin-destination patterns for the various trip purposes in the region. The SCAG model is the best available tool to estimate VMT for the current study. The model represents the following trip purposes:

- Residential trips generated by residential units (Home-based trips)
- Employee trips generated by residential units (Home-based work trips)
- Non-residential trips generated at other places beside home and work (Non-home-based trips)

Each of the above trip purposes have specific trip lengths, trip distribution and time-of-day patterns. Given the significant increase in housing supply in the City under the Future With Project scenario, the proportion of commute trips from Burbank residents to Burbank job locations (i.e., internal trips) increased compared to the Baseline scenario. The Future With Project scenario also includes a 7% reduction in single occupant vehicle commute trips to reflect various transportation demand management policies planned within the SCAG region and City.

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[3] Total VMT includes all resident and employee VMT plus other trip types including visitor and freight trips. Service population is the combined total of resident population and employees within a defined area.

4.4 Project VMT Impact Analysis

4.4.1 Project Comparison to Significance Thresholds

Based on the most recent data available from the SCAG model, the baseline regional average daily residential VMT per capita is 14.9, the baseline regional average daily work VMT per employee is 18.1, and the baseline regional total daily VMT per service population is 34.5. Therefore, these are the current thresholds applied to the Project.

Table 2 presents results from the SCAG model run for the Project for the Baseline (2021) and Future (2029) With Project scenarios. Under Future With Project conditions, the future City population of 129,450 is estimated to produce a total of 147,932 daily trips and 1,187,371 daily residential VMT, with an average of 9.2 miles per capita. The 131,493 future employees in the City are estimated to generate a total of 142,510 commute trips and 2,198,215 commute VMT, with an average of 16.7 miles per employee. The total 260,943 service population in the City is estimated to generate a total of 788,283 trips and 8,737,133 total trips, with an average of 33.5 miles per service population. Thus, the Project's daily VMT per capita would not exceed the City's VMT Significance Threshold 1. However, the Project's daily VMT per employee and total daily VMT per service population would exceed the City's VMT Significance Thresholds 2 and 3, respectively.

Table 2 – Burbank Housing Element Update Summary of Vehicle Miles Traveled

VMT Metrics		Regional Baseline (2021)	Future (2029) With Project	Alternative 2
Socio-Economic Data (SED)	Population	19,544,863	129,450	149,239
	Employment	8,202,739	131,493	131,493
	Service Population	27,747,602	260,943	280,732
Vehicle Trips (VT)	Total Vehicle Trips (includes Auto and Trucks)	83,351,242	788,283	811,746
	Home-Based Vehicle Trips (Production)	26,889,647	147,932	161,512
	Home-Based Work Vehicle Trips (Attraction)	9,530,040	142,510	142,260
	Total Vehicle Trips per Service Population	3.0	3.0	2.9
	Home-Based Vehicle Trips per Capita	1.4	1.1	1.1
	Home-Based Work Vehicle Trips per Employee	1.2	1.1	1.1
Average Trip Length	Average Trip Length (Total Trip)	11.5	11.1	11.0
	Average Trip Length (Home-Based Trip Production)	10.9	8.0	8.0
	Average Trip Length (Home-Based Work Trip Attraction)	15.5	15.4	15.3
Vehicle Miles Traveled (VMT)	Total VMT (includes Auto and Trucks)	957,259,947	8,737,133	8,896,566
	Home-Based VMT (Production)	291,776,899	1,187,371	1,292,861
	Home-Based Work VMT (Attraction)	148,170,588	2,198,215	2,169,489
	Total VMT per Service Population	**34.5**	**33.5**	**31.7**
	Home-Based VMT per Capita	**14.9**	**9.2**	**8.7**
	Home-Based Work VMT per Employee	**18.1**	**16.7**	**16.5**

Source: Fehr & Peers, 2021.

4.5 Mitigation Measures

Potential mitigation measures to reduce the average VMT per employee and average total VMT per service population significant impacts include the following:

- Provide bicycle parking at employer locations
- Provide parking cash-out programs
- Provide car-sharing, bike sharing, and ride-sharing programs at employer locations
- Provide transit passes to employees
- Improve or increase transit accessibility to employer locations
- Improve pedestrian or bicycle networks, or transit service
- Provide traffic calming features on City roadways

Additionally, the City may evaluate the feasibility of a local or regional VMT impact bank or exchange. Such an offset program, if determined feasible, would be administered by the City or a regional agency, and would offer demonstrated VMT reduction strategies through transportation demand management programs, impact fee programs, mitigation banks or exchange programs, in-lieu fee programs, or other land use project conditions that reduce VMT in a manner consistent with state guidance on VMT reduction. If, through land use changes, a subject project cannot demonstrate consistency with state guidance on VMT reduction, the project can contribute on a pro-rata basis to a local or regional VMT reduction bank or exchange, as necessary, to reduce net VMT impacts.

However, these potential mitigation measures to reduce the significant impact are generally beyond the scope of the Housing Element Update. For example, average VMT per employee could be reduced by enacting transportation demand management (TDM) measures or participation in a VMT reduction bank or exchange at employer locations, but enacting TDM measures or a VMT reduction program at employer locations falls beyond the scope of the Housing Element. Similarly, average total VMT per service population could be reduced by changing visitor trip behavior to and from the Bob Hope Airport or freight trips throughout the City, but airport operations and freight distribution also fall beyond the scope of the Housing Element. Therefore, feasible measures do not exist to mitigate average VMT per employee and average total VMT per service population and the VMT impact for the Housing Element is significant and unavoidable.

4.6 Plans, Programs, Ordinances, and Policies and Hazards Review

The purpose of this section is to determine the potential for an increase of hazards due to a geometric design feature, emergency access, and whether the Project conflicts with a transportation-related City plan, ordinance, or policy that was adopted to protect the environment. A project would not be shown to result in an impact merely based on whether a project would not implement an adopted plan, ordinance, or policy. Rather, it is the intention of this threshold test to ensure that proposed development does not conflict with nor preclude the City from implementing adopted plans, ordinances, or policies. This evaluation was conducted by reviewing City documents such as the Burbank2035 General Plan, the Citywide Complete Streets Plan, and municipal code sections.

4.6.1 Geometric Design Hazards

4.6.1.1 Threshold

Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

4.6.1.2 Impact Statement

Adoption of the Housing Element Update does not grant entitlements for any specific project or future development. All future developments would be reviewed by the appropriate City staff to ensure consistency with all applicable City design standards, including standards on driveway number, location, design, sight lines, and roadway modifications. Therefore, the Housing Element Update would not result in increased hazards due to a geometric design feature or incompatible use and the impact is less than significant and mitigation is not required.

4.6.2 Emergency Access

4.6.2.1 Threshold

Would the project result in inadequate emergency access?

4.6.2.2 Impact Statement

Adoption of the Housing Element Update does not grant entitlements for any specific project or future development. All future developments would be reviewed by the appropriate City staff to ensure consistency with all applicable City design standards. Therefore, the Housing Element Update would not result in inadequate emergency access and the impact is less than significant and mitigation is not required.

4.6.3 Transit System Project Impacts

4.6.3.1 Disruptions to Existing Transit Service

4.6.3.1.1 Threshold

A significant impact would occur if a project or project-related mitigation disrupts existing transit services or facilities. This includes disruptions on transit streets caused by proposed project driveways, impacts to transit stops/shelters, and impacts to transit operations from traffic improvements proposed or resulting from a project.

4.6.3.1.2 Impact Statement

The Project is not anticipated to impact citywide transit circulation and the existing ADA-accessible sidewalks and curb ramps that provide access to bus stops will be maintained. Therefore, the impact is less than significant.

4.6.3.2 Interference with Planned Transit Services

4.6.3.2.1 Threshold

A significant impact occurs if a project interferes with planned transit services or facilities.

4.6.3.2.2 Impact Statement

Major planned transit improvements in the City include the California High Speed Rail Burbank Station, the North Hollywood to Pasadena bus rapid transit route, and increased Metrolink service. The Project will not prevent any of these improvements. Since there are no planned transit services that would be impacted by the development of the Project, the impact is less than significant.

4.6.3.3 Inconsistencies with Adopted Transit System Plans, Guidelines, Policies, or Standards

4.6.3.3.1 Threshold

A significant impact occurs if a project conflicts or creates inconsistencies with adopted transit system plans, guidelines, policies, or standards.

4.6.3.3.2 Impact Statement

The *Burbank2035 General Plan Mobility Element* includes policies supporting the development of alternative transportation programs. Key goals and objectives described by the Mobility Element include:

- Policy 2.1: Improve Burbank's alternative transportation access to local and regional destinations through land use decisions that support multimodal transportation.
- Policy 4.1: 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.

The Complete Streets Plan also includes goals to promote transit use by people of all ages and abilities and improve the experience for transit riders.

In addition, increased transit usage is a key goal of regional transportation plans and policies:

- The SCAG *Connect SoCal (2020-2045 Regional Transportation Plan/Sustainable Communities Strategy)* (2020) includes specific goals of sustainable mobility. This includes plans to improve air quality and public health, reduce greenhouse gas emissions, and promote transit-friendly development.
- The SCAG *Regional Comprehensive Plan* (2008) includes an adopted policy supporting local jurisdiction programs that encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bicycle.

The Project will not interfere with the adopted transit system plans, guidelines, policies or standards. Also, by encouraging development on infill sites or development of existing parcels with greater density in high-resource areas around the city already service by public transit, the Project will improve residential transit access and possibly increase transit mode share. Therefore, the impact is less than significant.

4.6.4 Bicycle Network Project Impacts

4.6.4.1 Disruptions to Existing Facilities

4.6.4.1.1 Threshold

A significant impact occurs if a project disrupts existing bicycle facilities.

4.6.4.1.2 Impact Statement

No Project features or physical mitigation measures have been proposed that would disrupt existing bicycle facilities. Therefore, the impact is less than significant.

4.6.4.2 Interference with Planned Bicycle Facilities

4.6.4.2.1 Threshold

A significant impact occurs if a project interferes with planned bicycle facilities. This includes failure to dedicate rights-of-way for planned on- and off-street bicycle facilities included in an adopted bicycle specific plan or to contribute towards construction of planned bicycle facilities along the project frontage.

4.6.4.2.2 Impact Statement

The Project would not interfere with planned bicycle facilities. Therefore, the impact is less than significant.

4.6.4.3 Conflicts with Adopted Bicycle Plans, Guidelines, Policies, or Standards

4.6.4.3.1 Threshold

A significant impact occurs if the project conflicts or creates inconsistencies with adopted bicycle system plans, guidelines, policies, or standards.

4.6.4.3.2 Impact Statement

The Citywide Complete Streets Plan and City of Burbank Bicycle Master Plan recognize the importance of bicycling as a viable means of transportation and provide prioritized recommendations for facilities and programs. The Project does not conflict with adopted bicycle system plans, guidelines, policies, or standards. Also, by encouraging development on infill sites or development of existing parcels with greater density in high-resource areas around the city, the Project will facilitate the completion of household errands on bike, rather than in a car, which further supports state and local transportation-related climate and congestion goals. Therefore, the impact is less than significant.

4.6.5 Pedestrian Network Project Impacts

4.6.5.1 Disruptions to Existing Facilities

4.6.5.1.1 Threshold

A significant impact occurs if a project disrupts existing pedestrian facilities.

4.6.5.1.2 Impact Statement

No Project features or physical mitigation measures have been proposed that would disrupt existing pedestrian facilities. Therefore, the impact is less than significant.

4.6.5.2 Interference with Planned Pedestrian Facilities

4.6.5.2.1 Threshold

A significant impact occurs if a project interferes with planned pedestrian facilities. In existing or planned urbanized areas, main streets, or pedestrian districts, this can include impacts to the quality of the walking environment.

4.6.5.2.2 Impact Statement

The Project would not interfere with planned pedestrian facilities. Therefore, the impact is less than significant.

4.6.5.3 Conflicts with Adopted Pedestrian Plans, Guidelines, Policies, or Standards

4.6.5.3.1 Threshold

A significant impact occurs if a project conflicts or creates inconsistencies with adopted pedestrian system plans, guidelines, policies, or standards.

4.6.5.3.2 Impact Statement

The Complete Streets Plan outlines policy goals for future pedestrian improvements. The plan sets goals to encourage walkability and improve pedestrian safety. The Project does not conflict with adopted pedestrian system plans, guidelines, policies, or standards. Also, by encouraging development on infill sites or development of existing parcels with greater density in high-resource areas around the city, the Project will facilitate the completion of household errands on foot, rather than in a car, which further supports state and local transportation-related climate and congestion goals. Therefore, the impact is less than significant.

5. Project Alternatives

Potential transportation impacts for the Project alternatives were evaluated as part of the study. As permitted under CEQA, Project alternatives were evaluated to a lesser level of detail than the proposed Project. A qualitative assessment of the first alternative to the Project was conducted to determine its potential VMT impacts as compared to the proposed Project. A quantitative assessment using the 2016-2040 RTP/SCS SCAG model was conducted for the second alternative to the Project to determine its potential VMT impacts as compared to the proposed Project. The alternatives to the proposed Project are described below:

- Alternative 1 – No Project. The No Project Alternative assumes that the Housing Element Update is not implemented. Growth would continue to occur in accordance with adopted plans and regulations. By 2029, it is estimated that a total of approximately 3,500 new households would be added to the Baseline amount. This is less than half as many as are anticipated under the Project.
- Alternative 2 – Adding More Housing. Alternative 2 would add an additional 8,144 households beyond what is proposed in the Project. The additional households would be dispersed proportionally citywide with the same distribution as the Project.

5.1 Impact Analysis of Project Alternatives

Alternative 1 assumes no additional housing growth beyond what is already expected in accordance with adopted plans and regulations. Since the baseline citywide average VMT per capita is already well under 15 percent below the baseline regional average VMT per capita, it is reasonable to expect that the No Project alternative, even with a smaller household increase, would also result in average VMT per capita for the City to be less than 15 percent below the baseline regional average VMT per capita. However, adding fewer houses than the Project would likely result in fewer internal trips and therefore it is reasonable to expect that the No Project alternative would result in average VMT per employee and average total VMT per service population for the City to be greater than the Project's result for these metrics and by extension greater than 15 percent below the baseline regional averages for these metrics. Therefore, Alternative 1 would still have two significant and unavoidable VMT impacts.

Alternative 2 was fully analyzed as part of this study and the results are presented above in **Table 2**. As shown, under Alternative 2 average VMT per capita would reduce further to 8.7, average VMT per employee would reduce further to 16.5, and average total VMT per service population would reduce further to 31.7. Since the results for Thresholds 2 and 3 are still greater than 15 percent below the baseline regional averages for these metrics, Alternative 2 would still have two significant and unavoidable VMT impacts.

The results of the VMT impact analysis for the proposed Project and alternatives is presented in **Table 3**.

Table 3 – Summary of Impacts for Project Alternatives

Scenario	Threshold Criteria 1 (VMT per Capita)	Threshold Criteria 2 (VMT per Employee)	Threshold Criteria 3 (Total VMT per Service Population)
Proposed Project	LTS	SUI	SUI
Alternative 1: No Project	LTS	SUI	SUI
Alternative 2: Adding More Housing	LTS	SUI	SUI

Notes: LTS = Less Than Significant Impact SUI = Significant and Unavoidable Impact

6. Non-CEQA Local Transportation Assessment

6.1 Study Intersections

The same 35 study intersections selected for the most recent Burbank General Plan Update study have also been analyzed for the Project study. All 35 intersections are signalized in both the Existing and Future With Project scenarios and are illustrated in **Figure 5**.

The following 35 study intersections were identified in conjunction with the City of Burbank to be analyzed as part of the scope of work for this Project:

1. Winona Avenue & Hollywood Way
2. Thornton Avenue & Hollywood Way
3. Victory Boulevard & Hollywood Way
4. Burbank Boulevard & Hollywood Way
5. Magnolia Boulevard & Hollywood Way
6. Verdugo Avenue & Hollywood Way
7. Riverside Drive & Alameda Avenue
8. Pass Avenue & Alameda Avenue
9. Pass Avenue & Olive Avenue
10. Alameda Avenue & Hollywood Way
11. Riverside Drive & Hollywood Way
12. Olive Avenue & Hollywood Way
13. Olive Avenue & Riverside Drive
14. Olive Avenue & Alameda Avenue & Ontario Street
15. Gleanoaks Boulevard & Buena Vista Street
16. San Fernando Boulevard & Buena Vista Street
17. Empire Avenue & Buena Vista Street
18. Vanowen Street & Buena Vista Street
19. Victory Boulevard & Buena Vista Street
20. Burbank Boulevard & Buena Vista Street
21. Magnolia Boulevard & Buena Vista Street
22. Olive Avenue & Buena Vista Street
23. Alameda Avenue & Buena Vista Street
24. Riverside Drive & State Route 134 Ramps & Buena Vista Street
25. Burbank Boulevard & Victory Boulevard & Victory Place
26. Magnolia Boulevard & Victory Boulevard
27. Olive Avenue & Victory Boulevard

28. Alameda Avenue & Victory Boulevard
29. Burbank Boulevard & San Fernando Boulevard
30. Magnolia Boulevard & First Street
31. Olive Avenue & First Street
32. Alameda Avenue & San Fernando Boulevard
33. Magnolia Boulevard & Glenoaks Boulevard
34. Olive Avenue & Glenoaks Boulevard
35. Alameda Avenue & Glenoaks Boulevard

6.2 Existing Traffic Volumes and Level of Service

This section presents existing peak hour traffic volumes, describes the methodology used to assess the traffic conditions at each study intersection, and analyzes the resulting operating conditions at each, indicating seconds of delay and levels of service (LOS).

6.2.1 Existing Traffic Volumes

Due to the COVID-19 pandemic, which has substantially affected local and regional travel patterns and traffic volumes, existing traffic counts could not be collected in the Baseline (2021) scenario year. Therefore, previously collected traffic volumes from 2017-2019 were used. Counts were collected for each study intersection on a weekday during both AM and PM peak commute hours. Since most of the counts used were from 2019, a growth factor was applied to the 2017 and 2018 counts to represent an Existing (2019) scenario. The growth factor was applied using the same methodology as described in the Future With Project Traffic Volumes section.

6.2.2 Level of Service Methodology

Study intersections were analyzed using the *Highway Capacity Manual (HCM), 6th Edition* methodology. The HCM, 6th Edition analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free flow) to LOS F (severely congested conditions), based on a range of delay in seconds experienced per vehicle, as shown in **Table 4**. Signalized study intersections are considered adversely affected if the Project's traffic results in a change in level of service from LOS D or better to LOS E or F.

6.2.3 Existing (2019) Levels of Service

Existing traffic volumes, included in the Appendix, were analyzed using the methodologies described above to determine the existing operating conditions at the study intersections. **Table 5** summarizes the results of the analysis of the existing weekday AM and PM peak hour seconds of delay and corresponding LOS at each of the study intersections. Of the 35 study intersections, 26 operate at LOS D or better during both peak hours.

The following 9 study intersections are currently operating at poor levels of service, i.e., LOS E or F during one or both peak hours:

4. Burbank Boulevard & Hollywood Way (AM Peak Hour)
6. Verdugo Avenue & Hollywood Way (AM Peak Hour)
16. San Fernando Boulevard & Buena Vista Street (PM Peak Hour)
22. Olive Avenue & Buena Vista Street (AM Peak Hour)
24. Riverside Drive & State Route 134 Ramps & Buena Vista Street (AM & PM Peak Hours)
25. Burbank Boulevard & Victory Boulevard & Victory Place (PM Peak Hour)
26. Magnolia Boulevard & Victory Boulevard (PM Peak Hour)
27. Olive Avenue & Victory Boulevard (AM Peak Hour)
34. Olive Avenue & Glenoaks Boulevard (AM & PM Peak Hours)

Detailed LOS results are provided in the Appendix.

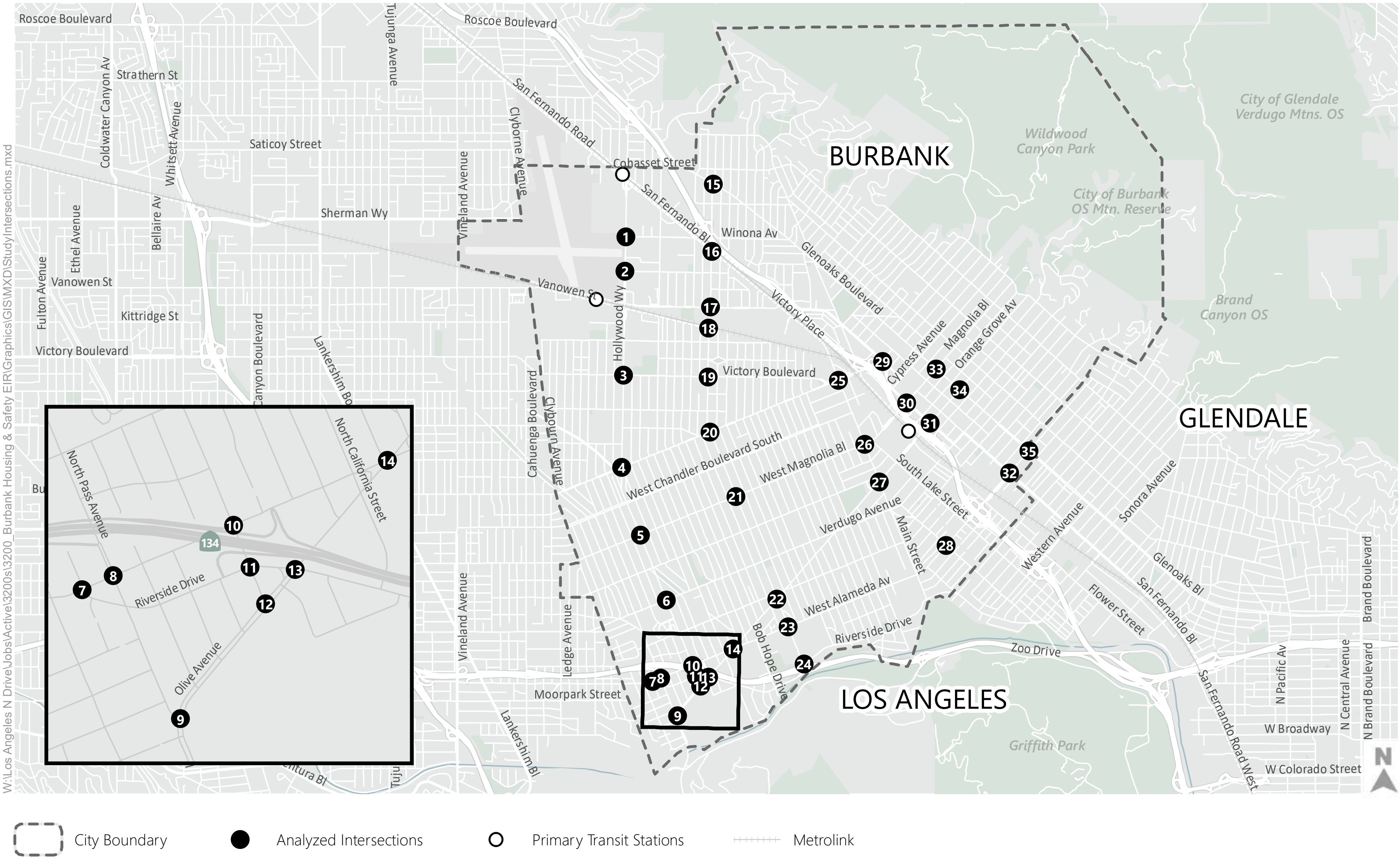


Figure 5

Study Intersections

Table 4 - HCM Level of Service Definitions for Signalized Intersections

LOS	Description	Signalized Delay (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle length.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	> 10.0 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	> 20.0 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	> 35.0 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	> 55.0 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over saturation, poor progression, or very long cycle lengths.	> 80.0

Source: *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016).

Table 5 - Existing (2019) and Future (2029) With Project Intersection Levels of Service

#	Study Intersection	Peak Hour	Baseline 2019		2029 with Project	
			Delay	LOS	Delay	LOS
1	Winona Ave & Hollywood Way	AM	9	A	10	A
		PM	25	C	33	C
2	Thornton Ave & Hollywood Way	AM	27	C	29	C
		PM	26	C	27	C
3	Victory Blvd & Hollywood Way	AM	44	D	49	D
		PM	42	D	46	D
4	Burbank Blvd & Hollywood Way	**AM**	**59**	**E**	**66**	**E**
		PM	45	D	48	D
5	Magnolia Blvd & Hollywood Way	AM	36	D	39	D
		PM	37	D	41	D
6	Hollywood Way & Verdugo Ave	**AM**	**59**	**E**	**90**	**F**
		PM	44	D	53	D
7	Riverside Dr & Alameda Ave	AM	11	B	11	B
		PM	20	B	21	C
8	Pass Ave & Alameda Ave	AM	37	D	45	D
		PM	43	D	52	D
9	Olive Ave & Pass Ave	AM	18	B	18	B
		PM	23	C	24	C
10	Alameda Ave & Hollywood Way	AM	40	D	44	D
		PM	48	D	**57**	**E**
11	Hollywood Way & Riverside Dr	AM	29	C	33	C
		PM	31	C	36	D
12	Hollywood Way & Olive Ave	AM	18	B	18	B
		PM	18	B	20	B
13	Riverside Dr & Olive Ave	AM	37	D	39	D
		PM	35	D	38	D
14	Alameda Ave & Ontario St & Olive Ave	AM	32	C	33	C
		PM	38	D	40	D
15	Buena Vista St & Glenoaks Blvd	AM	26	C	34	C
		PM	20	B	21	C
16	San Fernando Blvd & Buena Vista St	AM	36	D	39	D
		PM	**70**	**E**	**87**	**F**
17	Buena Vista St & Empire Ave	AM	30	C	31	C
		PM	37	D	40	D
18	Vanowen St/Driveway & Buena Vista St	AM	29	C	31	C
		PM	30	C	33	C
19	Victory Blvd & Buena Vista St	AM	42	D	45	D
		PM	41	D	46	D
20	Burbank Blvd & Buena Vista St	AM	39	D	44	D
		PM	37	D	39	D
21	Magnolia Blvd & Buena Vista St	**AM**	46	D	**59**	**E**
		PM	44	D	51	D
22	Olive Ave & Buena Vista St	**AM**	**57**	**E**	**66**	**E**
		PM	52	D	55	D

23	Alameda Ave & Buena Vista St	AM	41	D	42	D
		PM	48	D	50	D
24	Riverside Dr & SR 134 Ramps/Buena Vista St & SR 134 WB On Ramp	**AM**	**63**	**E**	**68**	**E**
		PM	**63**	**E**	**74**	**E**
25	Burbank Blvd & Victory Blvd/Victory Pl	**AM**	53	D	**56**	**E**
		PM	**59**	**E**	**61**	**E**
26	Victory Blvd & Magnolia Blvd	**AM**	50	D	**57**	**E**
		PM	**85**	**F**	**98**	**F**
27	Olive Ave & Victory Blvd	**AM**	**56**	**E**	**58**	**E**
		PM	42	D	43	D
28	Alameda Ave & Victory Blvd	AM	30	C	30	C
		PM	37	D	41	D
29	Burbank Blvd & San Fernando Blvd	AM	33	C	36	D
		PM	30	C	31	C
30	Magnolia Blvd & First St	AM	24	C	25	C
		PM	30	C	36	D
31	Olive Ave & First St	AM	26	C	26	C
		PM	33	C	34	C
32	Alameda Ave & San Fernando Blvd	AM	51	D	54	D
		PM	48	D	52	D
33	Magnolia Blvd & Glenoaks Blvd	AM	24	C	52	D
		PM	26	C	34	C
34	Olive Ave & Glenoaks Blvd	**AM**	**75**	**E**	**100**	**F**
		PM	**99**	**F**	**117**	**F**
35	Alameda Ave & Glenoaks Blvd	**AM**	41	D	**57**	**E**
		PM	39	D	46	D

Source: Fehr & Peers, 2021.

6.3 Project Traffic

As indicated in Chapter 3, the Project includes the addition of 21,103 residents and 12,420 employees to the City of Burbank by the year 2029. The same 2016-2040 RTP/SCS SCAG model run used to estimate the Project's VMT was also utilized to estimate traffic growth at the 35 study intersections in the Future (2029) With Project scenario. Intersection growth rates for each of the study intersections was calculated using the SCAG model and applied to the Existing (2019) traffic volumes to estimate the Future (2029) With Project traffic volumes. The intersection growth rates for each study intersection are shown in the Appendix.

6.4 Future (2029) With Project Traffic Level of Service

The resulting Future (2029) With Project peak hour traffic volumes were analyzed to determine the projected future operating conditions with the addition of the Project traffic. The results of the Future (2029) With Project analysis are also presented in **Table 5** above. Of the 35 study intersections, 23 are projected to operate at LOS D or better during the AM and PM peak hours under Future (2029) With Project conditions.

The following 12 intersections are projected to operate at poor levels of service, i.e., LOS E or F:

5. Burbank Boulevard & Hollywood Way (AM Peak Hour)
7. Verdugo Avenue & Hollywood Way (AM Peak Hour)
10. Alameda Avenue & Hollywood Way (PM Peak Hour)
17. San Fernando Boulevard & Buena Vista Street (PM Peak Hour)
21. Magnolia Boulevard & Buena Vista Street (AM Peak Hour)
22. Olive Avenue & Buena Vista Street (AM Peak Hour)
24. Riverside Drive & State Route 134 Ramps & Buena Vista Street (AM & PM Peak Hours)
25. Burbank Boulevard & Victory Boulevard & Victory Place (AM & PM Peak Hours)
26. Magnolia Boulevard & Victory Boulevard (AM & PM Peak Hours)
27. Olive Avenue & Victory Boulevard (AM Peak Hour)
34. Olive Avenue & Glenoaks Boulevard (AM & PM Peak Hours)
35. Alameda Avenue & Glenoaks Boulevard (AM Peak Hour)

Details of the analysis are included in the Appendix.

References

- *Burbank2035 General Plan* (City of Burbank, 2013)
- *Burbank Citywide Complete Streets Plan* (City of Burbank, 2020)
- *City of Burbank Bicycle Master Plan* (City of Burbank, 2009)
- *Highway Capacity Manual, 6th Edition* (Transportation Research Board, 2016)

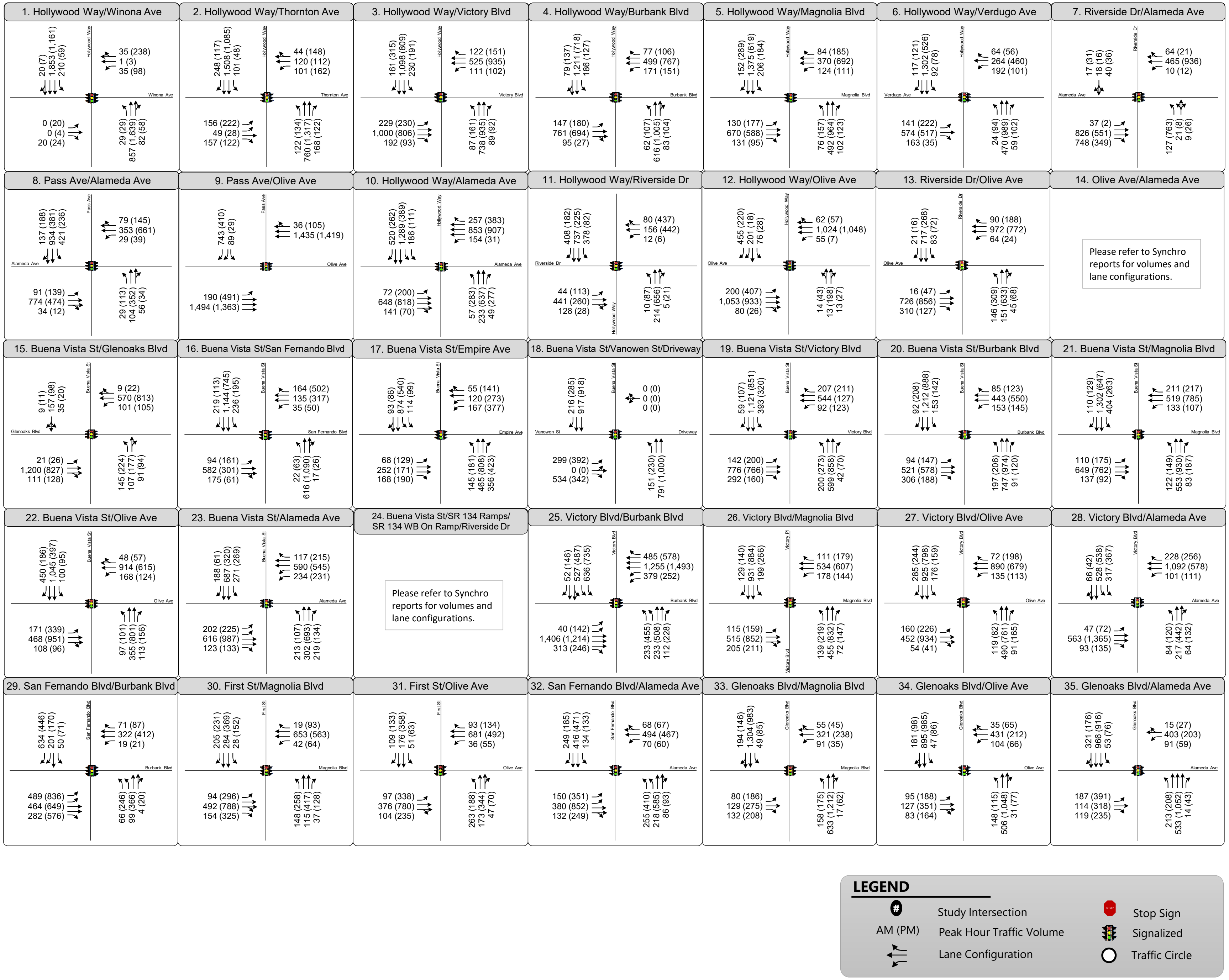
APPENDIX:
Intersection
Growth Rates

Table: Growth Rate by Intersections

Intersections	Base Volume		Future with Project Volume		Model Difference		Model Ratio	
	AM	PM	AM	PM	AM	PM	AM	PM
1 - Hollywood Way & Winona Avenue	2,409	2,878	2,732	3,309	323	431	13%	15%
2 - Hollywood Way & Thornton Avenue	2,747	2,960	2,996	3,220	249	260	9%	9%
3 - Hollywood Way & Victory Boulevard	3,682	4,394	3,956	4,812	274	418	7%	10%
4 - Hollywood Way & Burbank Boulevard	3,094	3,665	3,267	4,006	173	341	6%	9%
5 - Hollywood Way & Magnolia Boulevard	2,044	2,479	2,216	2,925	172	446	8%	18%
6 - Hollywood Way & Verdugo Avenue	2,264	2,720	2,526	3,146	262	426	12%	16%
7 - Riverside Drive & Alameda Avenue	1,786	2,134	2,003	2,550	217	416	12%	19%
8 - Pass Avenue & Alameda Avenue	2,557	2,673	2,839	3,020	282	347	11%	13%
9 - Pass Avenue & Olive Avenue	4,890	5,290	5,012	5,457	122	167	2%	3%
10 - Hollywood Way & Alameda Avenue	4,467	4,885	4,867	5,605	400	720	9%	15%
11 - Hollywood Way & Riverside Drive	2,384	2,464	2,576	3,028	192	564	8%	23%
12 - Hollywood Way & Olive Avenue	3,206	3,539	3,230	3,689	24	150	1%	4%
13 - Olive Avenue & Riverside Drive	2,821	3,347	3,113	3,839	292	492	10%	15%
14 - Olive Avenue & Alameda Avenue	3,971	4,555	4,182	4,864	211	309	5%	7%
15 - Buena Vista Street & Glenoaks Boulevard	1,363	1,510	1,529	1,687	166	177	12%	12%
16 - Buena Vista Street & San Fernando Boulevard	3,257	3,878	3,453	4,237	196	359	6%	9%
17 - Buena Vista Street & Empire Avenue	5,210	6,182	5,924	7,121	714	939	14%	15%
18 - Buena Vista Street & Vanowen Street	2,848	2,989	3,223	3,454	375	465	13%	16%
19 - Buena Vista Street & Victory Boulevard	4,024	4,550	4,338	5,016	314	466	8%	10%
20 - Buena Vista Street & Burbank Boulevard	2,722	3,177	2,956	3,511	234	334	9%	11%
21 - Buena Vista Street & Magnolia Boulevard	2,069	2,614	2,288	2,926	219	312	11%	12%
22 - Buena Vista Street & Olive Avenue	2,738	3,273	3,002	3,604	264	331	10%	10%
23 - Buena Vista Street & Alameda Avenue	3,186	3,370	3,331	3,522	145	152	5%	5%
24 - Buena Vista Street/State Route 134 & Riverside Drive	1,936	1,798	2,064	1,948	128	150	7%	8%
25 - Victory Boulevard/Victory Place & Burbank Boulevard	4,385	4,761	4,588	5,006	203	245	5%	5%
26 - Victory Boulevard & Magnolia Boulevard	3,232	3,931	3,579	4,322	347	391	11%	10%
27 - Victory Boulevard & Olive Avenue	3,004	3,666	3,092	3,893	88	227	3%	6%
28 - Victory Boulevard & Alameda Avenue	3,474	4,401	3,794	4,892	320	491	9%	11%
29 - San Fernando Boulevard & Burbank Boulevard	3,359	3,964	3,510	4,026	151	62	4%	2%
30 - First Street & Magnolia Boulevard	1,998	2,441	2,373	2,911	375	470	19%	19%
31 - First Street & Olive Avenue	2,391	2,545	2,398	2,734	7	189	0%	7%
32 - San Fernando Boulevard & Alameda Avenue	2,924	3,952	3,448	4,494	524	542	18%	14%
33 - Glenoaks Boulevard & Magnolia Boulevard	1,758	2,326	2,211	2,645	453	319	26%	14%
34 - Glenoaks Boulevard & Olive Avenue	2,393	2,911	2,761	3,149	368	238	15%	8%
35 - Glenoaks Boulevard & Alameda Avenue	3,277	4,086	3,743	4,498	466	412	14%	10%
Total					**9,250**	**12,758**	**9%**	**11%**
Annual Growth Rate							**0.7%**	**0.8%**

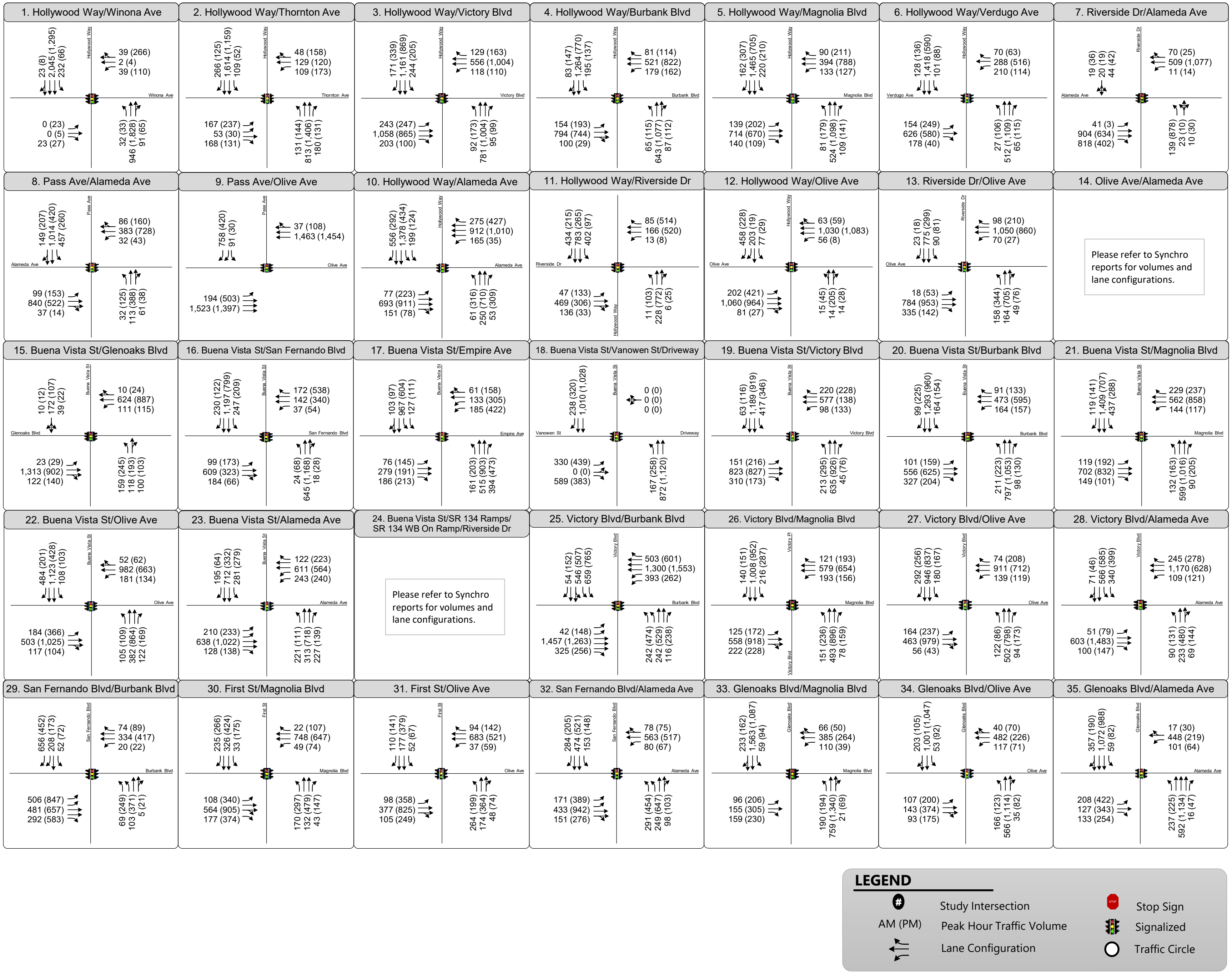
APPENDIX:

Intersection Lane Configurations and Turning Movement Volumes



Existing (2019) Conditions
Traffic Volumes & Lane Configurations AM(PM)
Burbank Housing Element Update
FIGURE 1

FEHR PEERS



Future Plus Project (2029) Conditions
Traffic Volumes & Lane Configurations AM(PM)
Burbank Housing Element Update
FIGURE 2

APPENDIX:

Existing Traffic Counts

Prepared by National Data & Surveying Services

N Hollywood Way & Winona Ave

Peak Hour Turning Movement Count

ID: 19-05223-002
City: Burbank

Day: Tuesday
Date: 04/23/2019

PEAK HOURS	
AM	07:45 AM - 08:45 AM
NOON	NONE
PM	05:00 PM - 06:00 PM

COUNT PERIODS	
AM	07:00 AM - 10:00 AM
NOON	NONE
PM	04:30 PM - 07:30 PM

N Hollywood Way
SOUTHBOUND

	↲	↓	↳	U	Exit ⇧
AM	20	1853	209	1	893
NOON	0	0	0	0	0
PM	7	1161	59	0	1897
Lanes	0	3	1	0	

Winona Ave
EASTBOUND

	Lanes	AM	NOON	PM
⇦		49	0	35
U	0	0	0	0
↰	1	0	0	20
→	1	0	0	4
↴	1	20	0	24

Winona Ave
WESTBOUND

	Lanes	PM	NOON	AM
↰	0	238	0	35
←	2	3	0	1
↲	1	98	0	35
U	0	0	0	0
⇨		121	0	291

CONTROL

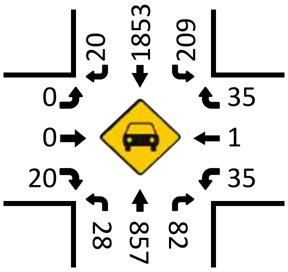
Signalized

	AM	NOON	PM
TEV	3142	0	3340
PHF	0.97		0.92

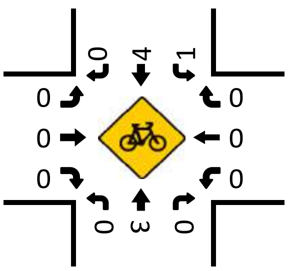
NORTHBOUND
N Hollywood Way

	Exit ⇩	U	↰	↑	↱
Lanes		0	1	2	0
PM	1287	4	25	1639	58
NOON	0	0	0	0	0
AM	1909	1	28	857	82

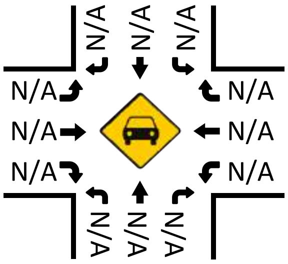
Total Vehicles (AM)



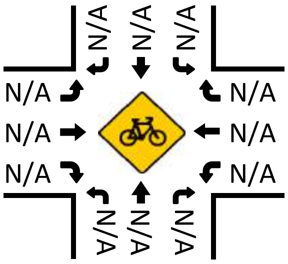
Bikes (AM)



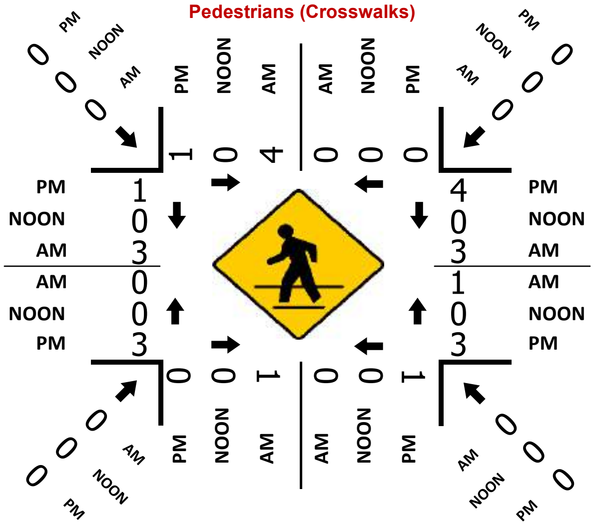
Total Vehicles (Noon)



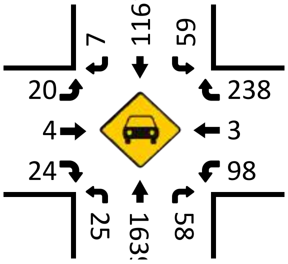
Bikes (NOON)



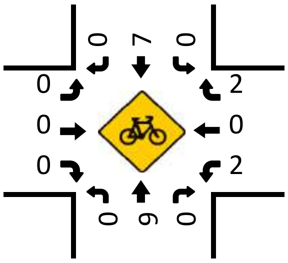
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

N Hollywood Way & Thornton Ave

Peak Hour Turning Movement Count

ID: 19-05223-003
City: Burbank

Day: Tuesday
Date: 04/23/2019

	PEAK HOURS	COUNT PERIODS
AM	08:00 AM - 09:00 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	04:30 PM - 07:30 PM

N Hollywood Way

SOUTHBOUND

	↲	↓	↳	↺	⇧
AM	248	1508	101	0	960
NOON	0	0	0	0	0
PM	117	1085	48	0	1687
	1	2	1	0	

Thornton Ave

EASTBOUND

	AM	NOON	PM	
⇦	490	0	361	
↺	0	0	0	0
↰	156	0	222	2
→	49	0	28	1
↴	157	0	122	1

Thornton Ave

WESTBOUND

		PM	NOON	AM
0.5	↰	148	0	44
1.5	←	112	0	120
1	↱	162	0	101
0	↺	0	0	0
	⇨	198	0	318

CONTROL

Signalized

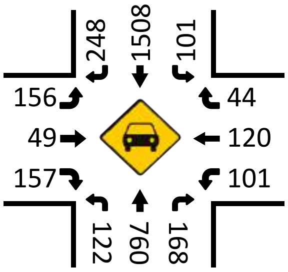
	AM	NOON	PM
TEV	3534	0	3617
PHF	0.95		0.93

	⇩	↺	↰	↑	↱
		0	1	2	1
PM	1371	2	132	1317	122
NOON	0	0	0	0	0
AM	1766	0	122	760	168

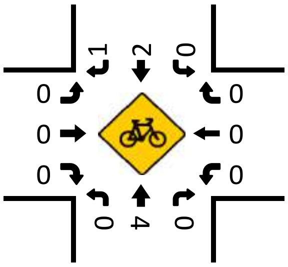
NORTHBOUND

N Hollywood Way

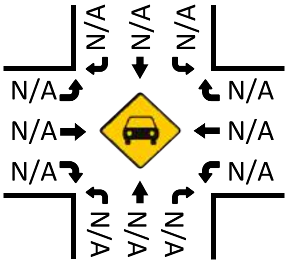
Total Vehicles (AM)



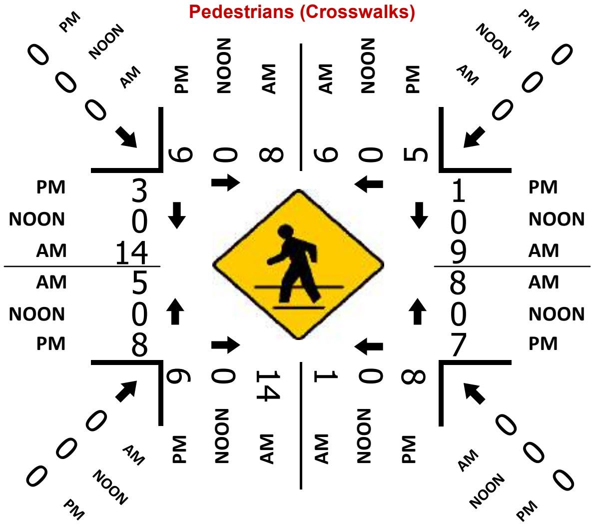
Bikes (AM)



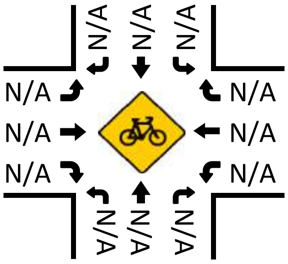
Total Vehicles (Noon)



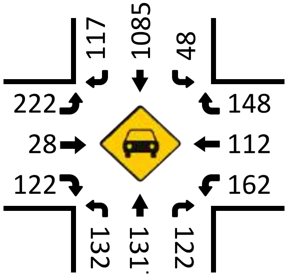
Pedestrians (Crosswalks)



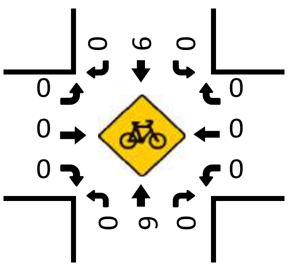
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

N Hollywood Way & W Victory Blvd

Peak Hour Turning Movement Count

ID: 19-05223-009
City: Burbank

Day: Tuesday
Date: 04/23/2019

	PEAK HOURS	COUNT PERIODS
AM	07:45 AM - 08:45 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:30 PM - 06:30 PM	04:30 PM - 07:30 PM

N Hollywood Way

SOUTHBOUND

	↲	↓	↳	U	⇧
AM	161	1098	230	0	1089
NOON	0	0	0	0	0
PM	315	809	191	0	1316
	1	2	1	0	

W Victory Blvd

EASTBOUND

AM	NOON	PM		
773	0	1411	⇦	
0	0	0	U	0
229	0	230	↰	1
1000	0	806	→	2
192	0	93	↱	1
AM	NOON	PM		

CONTROL

Signalized

	AM	NOON	PM
TEV	4582	0	4820
PHF	0.91		0.98

W Victory Blvd

WESTBOUND

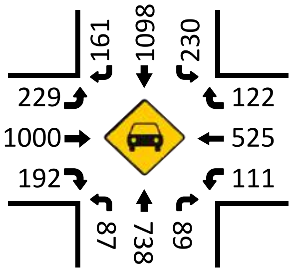
		PM	NOON	AM
1	↰	151	0	122
2	←	935	0	525
1	↲	102	0	111
0	U	0	0	0
	⇨	1089	0	1319
		PM	NOON	AM

	⇩	U	↰	↑	↱
		0	1	2	1
PM	1004	0	161	935	92
NOON	0	0	0	0	0
AM	1401	0	87	738	89

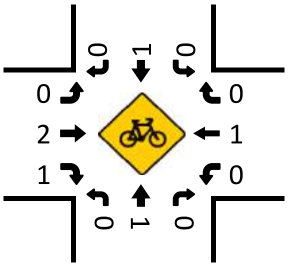
NORTHBOUND

N Hollywood Way

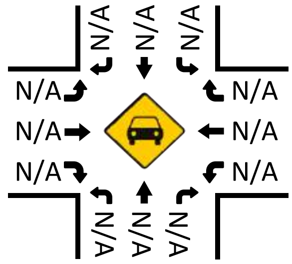
Total Vehicles (AM)



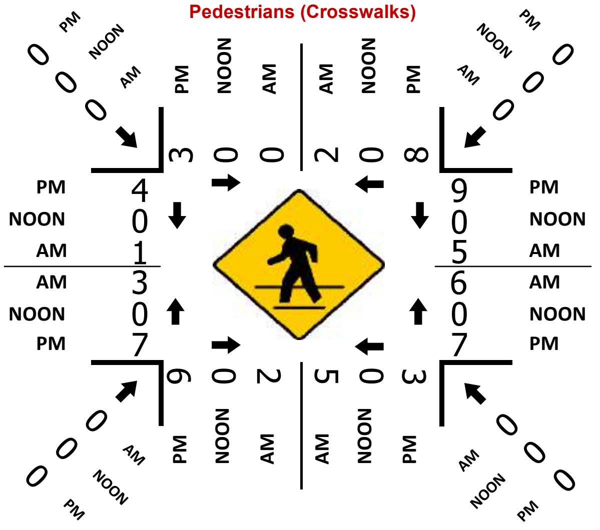
Bikes (AM)



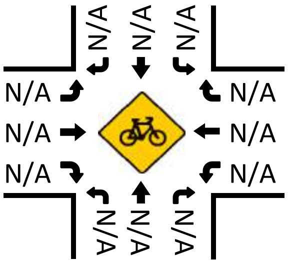
Total Vehicles (Noon)



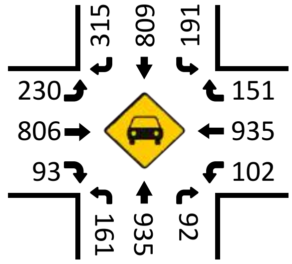
Pedestrians (Crosswalks)



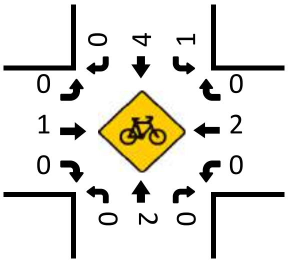
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

N Hollywood Way & W Burbank Blvd

Peak Hour Turning Movement Count

ID: 19-05223-010
City: Burbank

Day: Tuesday
Date: 04/23/2019

PEAK HOURS

AM	07:45 AM - 08:45 AM
NOON	NONE
PM	05:30 PM - 06:30 PM

COUNT PERIODS

AM	07:00 AM - 10:00 AM
NOON	NONE
PM	04:30 PM - 07:30 PM

N Hollywood Way

SOUTHBOUND

AM	79	1211	186	0	840
NOON	0	0	0	0	0
PM	137	718	127	0	1290
	↲	↓	↳	↶	⇧
	0	2	1	0	

W Burbank Blvd

EASTBOUND

	AM	NOON	PM		
⇦	640	0	1012		
↶	0	0	1	0	
↰	147	0	179	1	
→	761	0	694	2	
↴	95	0	27	0	

CONTROL

Signalized

	AM	NOON	PM
TEV	3987	0	4123
PHF	0.93		0.98

W Burbank Blvd

WESTBOUND

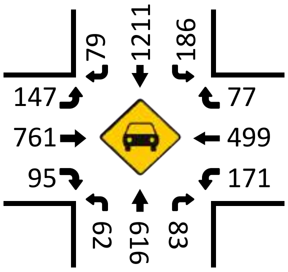
		PM	NOON	AM
1	↰	106	0	77
2	←	767	0	499
1	↲	151	0	171
0	↷	0	0	0
	⇨	925	0	1030

NORTHBOUND

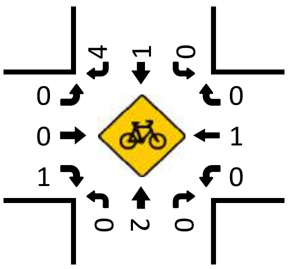
N Hollywood Way

		0	1	2	0
	⇩	↶	↰	↑	↱
PM	896	0	107	1005	104
NOON	0	0	0	0	0
AM	1477	0	62	616	83

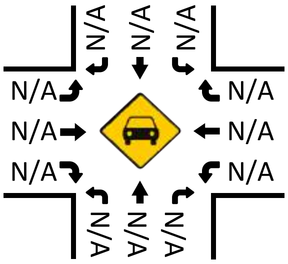
Total Vehicles (AM)



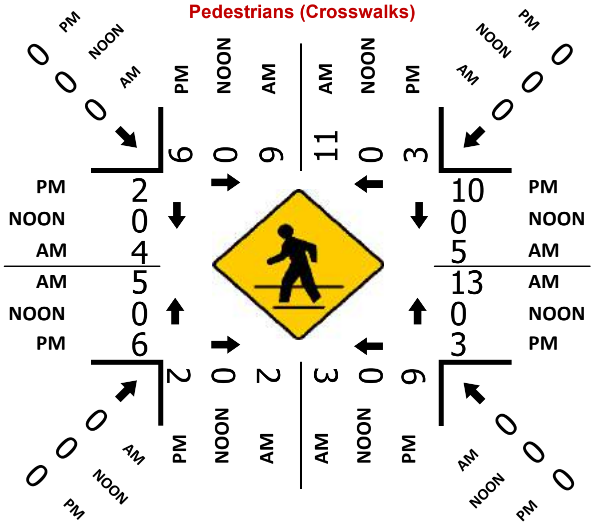
Bikes (AM)



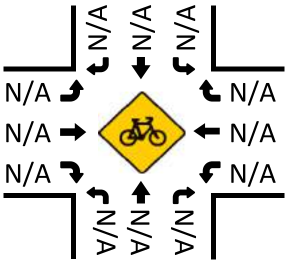
Total Vehicles (Noon)



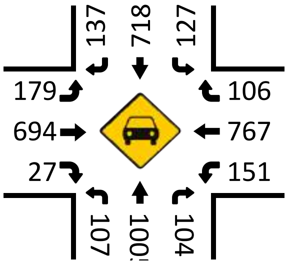
Pedestrians (Crosswalks)



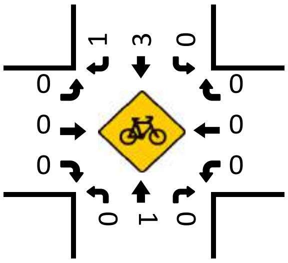
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

N Hollywood Way & Magnolia Blvd

Peak Hour Turning Movement Count

ID: 19-05223-011
City: Burbank

Day: Tuesday
Date: 04/23/2019

	PEAK HOURS	COUNT PERIODS
AM	08:15 AM - 09:15 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	04:30 PM - 07:30 PM

N Hollywood Way
SOUTHBOUND

AM	152	1375	206	0	705
NOON	0	0	0	0	0
PM	269	619	184	0	1326
	1	2	1	0	

Magnolia Blvd
EASTBOUND

	AM	NOON	PM	
	599	0	1117	
⤺	1	0	0	0
↰	129	0	177	1
→	670	0	588	2
↱	131	0	95	1

Magnolia Blvd
WESTBOUND

	PM	NOON	AM
1	185	0	84
2	692	0	370
1	110	0	124
0	1	0	0
	896	0	978

CONTROL

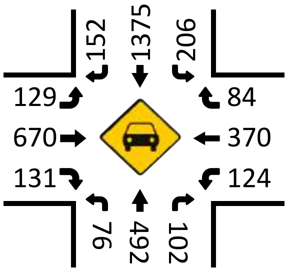
Signalized

	AM	NOON	PM
TEV	3912	0	4164
PHF	0.98		0.98

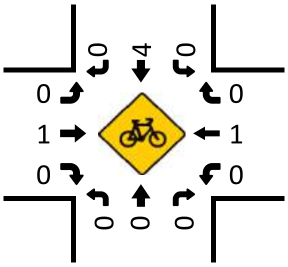
NORTHBOUND
N Hollywood Way

		0	1	2	1
PM	825	1	156	964	123
NOON	0	0	0	0	0
AM	1630	0	76	492	102

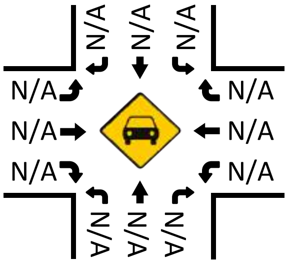
Total Vehicles (AM)



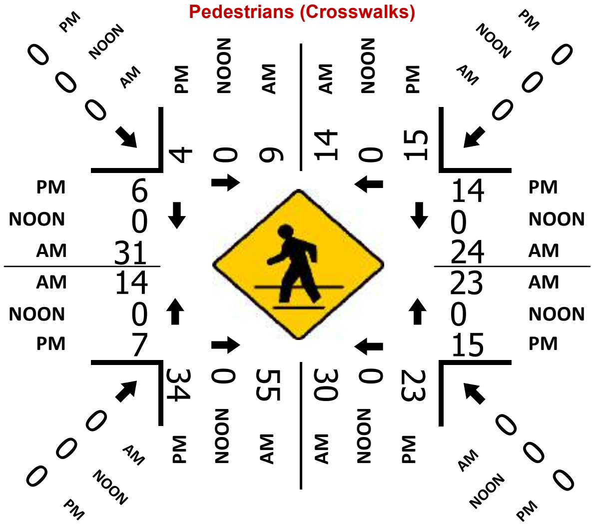
Bikes (AM)



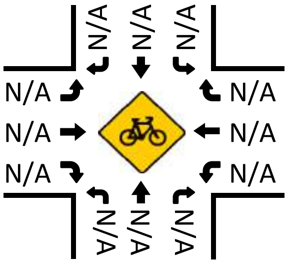
Total Vehicles (Noon)



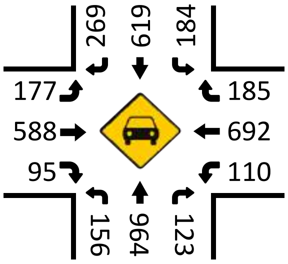
Pedestrians (Crosswalks)



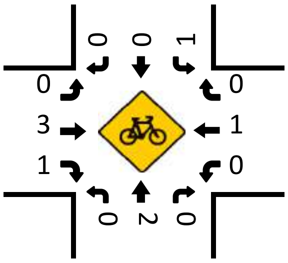
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: N Hollywood Way & W Verdugo Ave
City: Burbank
Control: Signalized

Project ID: 19-05223-012
Date: 4/23/2019

Total

NS/EW Streets:	N Hollywood Way				N Hollywood Way				W Verdugo Ave				W Verdugo Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	88	2	0	7	238	25	0	27	25	16	0	34	50	10	0	525
7:15 AM	2	83	14	0	5	244	40	0	31	49	9	0	30	50	8	0	565
7:30 AM	11	96	3	0	13	323	33	0	42	75	18	0	29	53	9	0	705
7:45 AM	5	128	15	0	17	315	31	0	52	90	22	0	39	82	15	0	811
8:00 AM	7	133	12	0	22	331	24	0	35	106	26	0	43	70	13	0	822
8:15 AM	7	103	14	0	37	282	34	0	33	190	40	0	36	71	11	0	858
8:30 AM	5	127	14	0	22	361	29	0	27	156	39	0	58	70	25	0	933
8:45 AM	5	107	19	0	11	328	30	0	46	122	58	0	55	53	15	0	849
9:00 AM	8	102	6	0	4	344	18	0	43	119	58	0	51	56	12	0	821
9:15 AM	7	118	8	0	15	349	25	0	44	101	47	0	35	55	10	0	814
9:30 AM	6	115	15	0	11	260	31	0	40	90	42	0	32	60	12	0	714
9:45 AM	4	136	12	0	9	276	28	0	56	89	20	0	34	57	13	0	734
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	70	1336	134	0	173	3651	348	0	476	1212	395	0	476	727	153	0	9151
APPROACH %'s :	4.55%	86.75%	8.70%	0.00%	4.15%	87.51%	8.34%	0.00%	22.85%	58.19%	18.96%	0.00%	35.10%	53.61%	11.28%	0.00%	
PEAK HR :	**08:00 AM - 09:00 AM**																TOTAL
PEAK HR VOL :	24	470	59	0	92	1302	117	0	141	574	163	0	192	264	64	0	3462
PEAK HR FACTOR :	0.857	0.883	0.776	0.000	0.622	0.902	0.860	0.000	0.766	0.755	0.703	0.000	0.828	0.930	0.640	0.000	0.928
	0.910				0.917				0.835				0.850				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	1	0	1	2	1	0	1	1	1	0	1	1	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	13	203	11	0	11	164	30	0	55	83	9	0	26	84	9	0	698
4:45 PM	16	193	19	0	23	146	35	0	47	99	9	0	27	86	17	0	717
5:00 PM	21	249	16	0	23	141	31	0	53	107	9	0	26	104	16	0	796
5:15 PM	18	241	10	0	29	170	30	0	59	117	10	0	27	88	17	0	816
5:30 PM	20	217	22	0	15	123	36	0	50	140	10	0	27	125	22	0	807
5:45 PM	28	274	30	0	17	135	32	0	55	126	6	0	14	113	10	0	840
6:00 PM	18	210	27	0	24	130	20	0	55	121	7	0	31	110	15	0	768
6:15 PM	28	288	23	0	22	138	33	0	62	130	12	0	29	112	9	0	886
6:30 PM	29	205	33	0	17	110	35	0	53	104	13	0	34	117	16	0	766
6:45 PM	20	187	16	0	12	129	25	0	66	117	18	0	21	82	10	0	703
7:00 PM	27	205	24	0	12	140	16	0	64	106	8	0	24	81	14	0	721
7:15 PM	15	191	14	0	12	162	16	0	61	86	9	0	24	74	14	0	678
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	253	2663	245	0	217	1688	339	0	680	1336	120	0	310	1176	169	0	9196
APPROACH %'s :	8.00%	84.25%	7.75%	0.00%	9.67%	75.22%	15.11%	0.00%	31.84%	62.55%	5.62%	0.00%	18.73%	71.06%	10.21%	0.00%	
PEAK HR :	**05:30 PM - 06:30 PM**																TOTAL
PEAK HR VOL :	94	989	102	0	78	526	121	0	222	517	35	0	101	460	56	0	3301
PEAK HR FACTOR :	0.839	0.859	0.850	0.000	0.813	0.953	0.840	0.000	0.895	0.923	0.729	0.000	0.815	0.920	0.636	0.000	0.931
	0.874				0.939				0.949				0.886				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Evergreen St/Riverside Dr & Riverside Dr/Alameda Ave
City: Burbank
Control: Signalized

Project ID: 19-05221-003
Date: 4/23/2019

Total

NS/EW Streets:	Evergreen St/Riverside Dr					Evergreen St/Riverside Dr					Riverside Dr/Alameda Ave					Riverside Dr/Alameda Ave											
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2						
	1.3	0.3	0.3	0	0	0	1	0	0	0	0	2	1	0	0	1	2	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
7:00 AM	13	1	0	0	4	2	5	2	0	0	0	42	31	0	0	1	75	4	0	1		0	1	0	0	2	184
7:15 AM	20	2	0	0	2	3	2	2	0	0	1	42	39	0	0	0	57	6	1	2		0	0	0	0	3	182
7:30 AM	20	3	1	0	1	5	4	2	0	1	1	65	66	0	0	2	93	4	0	0		0	3	0	0	6	277
7:45 AM	24	5	1	0	3	10	1	0	0	0	4	81	67	1	0	2	109	15	0	0		0	3	0	0	6	332
8:00 AM	20	5	1	0	5	7	6	4	0	0	5	141	108	0	0	2	102	7	0	3		0	3	0	0	4	423
8:15 AM	32	4	2	0	4	7	4	2	0	1	10	190	204	0	0	2	127	13	0	0		0	7	0	0	9	618
8:30 AM	30	8	2	0	8	14	7	7	0	0	7	218	193	0	6	2	115	13	0	1		0	0	0	0	7	638
8:45 AM	31	5	3	0	6	9	4	4	0	0	6	197	189	0	5	3	118	19	1	2		0	0	0	0	12	614
9:00 AM	34	4	2	0	5	10	3	4	0	2	14	221	162	0	5	2	105	19	0	2		0	0	0	0	9	603
9:15 AM	38	5	1	0	4	5	5	0	0	1	7	231	174	0	4	2	92	25	0	0		0	0	0	1	7	602
9:30 AM	43	5	4	0	7	5	2	4	0	1	6	135	129	0	7	4	120	19	0	3		0	1	0	1	9	505
9:45 AM	40	6	1	0	3	8	6	1	0	0	10	154	129	0	9	3	114	17	0	2		0	0	0	0	4	507
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	345	53	18	0	52	85	49	32	0	6	71	1717	1491	1	36	25	1227	161	2	16	0	0	18	0	2	78	5485
APPROACH %'s :	73.72%	11.32%	3.85%	0.00%	11.11%	49.42%	28.49%	18.60%	0.00%	3.49%	2.14%	51.78%	44.96%	0.03%	1.09%	1.75%	85.74%	11.25%	0.14%	1.12%	0.00%	0.00%	18.37%	0.00%	2.04%	79.59%	
PEAK HR :	08:15 AM - 09:15 AM																										TOTAL
PEAK HR VOL :	127	21	9	0	23	40	18	17	0	3	37	826	748	0	16	9	465	64	1	5	0	0	7	0	0	37	2473
PEAK HR FACTOR :	0.934	0.656	0.750	0.000	0.719	0.714	0.643	0.607	0.000	0.375	0.661	0.934	0.917	0.000	0.667	0.750	0.915	0.842	0.250	0.625	0.000	0.000	0.250	0.000	0.000	0.771	0.969
			0.938					0.696					0.959					0.951					0.688				

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					NORTHBOUND2						
	1.3	0.3	0.3	0	0	0	1	0	0	0	0	2	1	0	0	1	2	0	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
4:30 PM	93	2	7	0	1	0	6	2	0	0	1	107	59	0	2	2	190	8	0	2		0	0	0	0	11	493
4:45 PM	93	1	1	0	7	4	2	5	0	0	2	119	76	0	3	2	157	7	0	1		0	5	0	0	15	500
5:00 PM	151	3	11	0	8	3	4	8	0	0	2	129	92	0	2	8	196	2	2	0		0	1	0	0	8	630
5:15 PM	132	4	3	0	3	4	3	11	0	0	1	157	89	0	4	0	226	4	0	0		0	2	0	0	10	653
5:30 PM	181	3	3	0	5	10	7	14	0	0	1	141	82	0	2	4	206	3	0	1		0	0	0	0	10	673
5:45 PM	170	1	5	0	3	8	2	4	0	0	0	141	84	0	3	4	219	4	0	2		0	1	0	0	10	661
6:00 PM	194	1	7	0	2	9	4	15	0	0	0	147	86	0	3	0	237	6	0	1		0	1	0	0	10	723
6:15 PM	223	6	5	0	6	7	4	6	0	0	2	120	93	0	5	5	246	5	0	2		0	0	0	0	6	741
6:30 PM	176	0	9	0	6	12	6	6	0	0	0	143	86	0	2	3	234	6	0	2		0	0	0	0	14	705
6:45 PM	126	4	7	0	10	6	1	15	0	0	0	129	87	0	2	1	187	2	0	1		0	1	0	0	7	586
7:00 PM	95	1	5	0	3	5	6	6	0	0	0	119	76	0	1	1	190	5	0	4		0	0	0	0	5	522
7:15 PM	103	1	4	0	3	6	3	6	0	0	1	97	60	0	3	0	151	3	0	4		0	0	0	0	4	449
	NL	NT	NR	NU	NU2	SL	ST	SR	SU	ST2	EL	ET	ER	EU	ER2	WL	WT	WR	WU	WL2	N2L	N2U	N2L2	N2T2	N2R2	N2U2	TOTAL
TOTAL VOLUMES :	1737	27	67	0	57	74	48	98	0	0	10	1549	970	0	32	30	2439	55	2	20	0	0	11	0	0	110	7336
APPROACH %'s :	92.00%	1.43%	3.55%	0.00%	3.02%	33.64%	21.82%	44.55%	0.00%	0.00%	0.39%	60.48%	37.88%	0.00%	1.25%	1.18%	95.80%	2.16%	0.08%	0.79%	0.00%	0.00%	9.09%	0.00%	0.00%	90.91%	
PEAK HR :	05:45 PM - 06:45 PM																										TOTAL
PEAK HR VOL :	763	8	26	0	17	36	16	31	0	0	2	551	349	0	13	12	936	21	0	7	0	0	2	0	0	40	2830
PEAK HR FACTOR :	0.855	0.333	0.722	0.000	0.708	0.750	0.667	0.517	0.000	0.000	0.250	0.937	0.938	0.000	0.650	0.600	0.951	0.875	0.000	0.875	0.000	0.000	0.500	0.000	0.000	0.714	0.955
			0.848					0.741					0.969					0.946					0.750				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Pass Ave & Alameda Ave
City: Burbank
Control: Signalized

Project ID: 19-05221-005
Date: 4/23/2019

Total

NS/EW Streets:	Pass Ave				Pass Ave				Alameda Ave				Alameda Ave				
	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
AM	1	2	0	0	2	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	3	11	2	0	26	99	19	0	12	31	0	0	2	57	9	0	271
7:15 AM	2	20	4	0	38	109	31	0	10	37	0	0	7	38	10	0	306
7:30 AM	4	14	3	0	53	129	25	0	13	54	3	0	4	69	13	0	384
7:45 AM	5	16	4	0	108	192	41	0	18	71	3	0	5	80	11	0	554
8:00 AM	6	33	8	0	167	200	30	0	19	125	3	0	1	78	9	0	679
8:15 AM	5	27	13	0	129	240	40	0	30	168	7	0	7	93	11	0	770
8:30 AM	8	24	12	0	105	247	37	0	23	178	21	0	9	85	13	0	762
8:45 AM	2	20	11	0	105	249	43	0	16	199	0	0	5	97	24	0	771
9:00 AM	8	33	18	0	84	214	33	0	29	176	6	0	6	87	23	0	717
9:15 AM	11	27	15	0	127	224	24	0	23	221	7	0	9	84	19	0	791
9:30 AM	14	29	21	0	83	164	43	0	18	114	2	0	6	92	22	0	608
9:45 AM	7	26	15	0	93	161	32	0	22	141	5	0	9	88	24	0	623
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	75	280	126	0	1118	2228	398	0	233	1515	57	0	70	948	188	0	7236
APPROACH %'s :	15.59%	58.21%	26.20%	0.00%	29.86%	59.51%	10.63%	0.00%	12.91%	83.93%	3.16%	0.00%	5.80%	78.61%	15.59%	0.00%	
PEAK HR :	08:30 AM - 09:30 AM																TOTAL
PEAK HR VOL :	29	104	56	0	421	934	137	0	91	774	34	0	29	353	79	0	3041
PEAK HR FACTOR :	0.659	0.788	0.778	0.000	0.829	0.938	0.797	0.000	0.784	0.876	0.405	0.000	0.806	0.910	0.823	0.000	0.961
	0.801				0.940				0.895				0.915				

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	2	0	0	2	2	0	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	12	53	8	0	51	99	51	0	22	82	4	0	9	139	37	0	567
4:45 PM	3	51	8	0	45	85	44	0	29	98	3	0	5	126	38	0	535
5:00 PM	10	78	13	0	39	75	47	0	28	101	7	0	9	152	31	0	590
5:15 PM	19	69	9	0	36	86	45	0	41	127	2	0	9	158	38	0	639
5:30 PM	20	72	7	0	61	98	31	0	33	112	1	0	5	164	29	0	633
5:45 PM	30	90	3	0	68	96	49	0	36	119	1	0	8	135	28	0	663
6:00 PM	33	103	11	1	60	98	41	0	34	128	4	0	9	171	31	0	724
6:15 PM	30	91	9	0	57	100	46	0	33	99	2	0	10	182	47	0	706
6:30 PM	19	68	11	0	51	87	52	0	36	128	5	0	12	173	39	0	681
6:45 PM	12	69	11	0	52	84	40	0	26	98	4	0	6	134	38	0	574
7:00 PM	15	70	11	0	59	71	59	0	30	109	3	0	8	126	32	0	593
7:15 PM	13	66	7	0	47	61	43	0	31	78	3	0	9	107	30	0	495
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	216	880	108	1	626	1040	548	0	379	1279	39	0	99	1767	418	0	7400
APPROACH %'s :	17.93%	73.03%	8.96%	0.08%	28.27%	46.97%	24.75%	0.00%	22.33%	75.37%	2.30%	0.00%	4.33%	77.36%	18.30%	0.00%	
PEAK HR :	05:45 PM - 06:45 PM																TOTAL
PEAK HR VOL :	112	352	34	1	236	381	188	0	139	474	12	0	39	661	145	0	2774
PEAK HR FACTOR :	0.848	0.854	0.773	0.250	0.868	0.953	0.904	0.000	0.965	0.926	0.600	0.000	0.813	0.908	0.771	0.000	0.958
	0.843				0.945				0.925				0.884				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Pass Ave & Olive Ave
City: Burbank
Control: Signalized

Project ID: 19-05221-007
Date: 4/23/2019

Total

NS/EW Streets:	Pass Ave				Pass Ave				Olive Ave				Olive Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	2	0	1	3	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	7	0	76	0	12	126	0	0	0	341	5	0	567
7:15 AM	0	0	0	0	2	0	83	0	29	167	0	0	0	331	3	0	615
7:30 AM	0	0	0	0	4	0	99	0	22	208	0	0	0	348	1	0	682
7:45 AM	0	0	0	0	10	0	161	0	30	243	0	0	0	325	2	0	771
8:00 AM	0	0	0	0	9	0	142	0	45	308	0	0	0	367	8	0	879
8:15 AM	0	0	0	0	21	0	242	0	42	341	0	0	0	353	6	0	1005
8:30 AM	0	0	0	0	18	0	194	0	50	356	0	0	0	341	7	0	966
8:45 AM	0	0	0	0	28	0	197	0	37	349	0	0	0	411	5	0	1027
9:00 AM	0	0	0	0	18	0	164	0	50	378	0	0	0	356	11	0	977
9:15 AM	0	0	0	0	25	0	188	0	53	411	0	0	0	327	13	0	1017
9:30 AM	0	0	0	0	11	0	156	0	59	367	0	0	0	310	8	0	911
9:45 AM	0	0	0	0	12	0	147	0	64	352	0	1	0	273	10	0	859
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	165	0	1849	0	493	3606	0	1	0	4083	79	0	10276
APPROACH %'s :					8.19%	0.00%	91.81%	0.00%	12.02%	87.95%	0.00%	0.02%	0.00%	98.10%	1.90%	0.00%	
PEAK HR :	08:30 AM - 09:30 AM																TOTAL
PEAK HR VOL :	0	0	0	0	89	0	743	0	190	1494	0	0	0	1435	36	0	3987
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.795	0.000	0.943	0.000	0.896	0.909	0.000	0.000	0.000	0.873	0.692	0.000	0.971
					0.924				0.907				0.884				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	0	0	0	1	0	2	0	1	3	0	0	0	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	0	0	0	0	7	0	96	0	86	345	0	0	0	293	7	0	834
4:45 PM	0	0	0	0	9	0	83	0	67	370	0	0	0	275	10	0	814
5:00 PM	0	0	0	0	5	0	83	0	89	358	0	0	0	328	18	0	881
5:15 PM	0	0	0	0	5	0	105	0	88	327	0	0	0	343	19	0	887
5:30 PM	0	0	0	0	6	0	118	0	102	320	0	0	0	360	21	0	927
5:45 PM	0	0	0	0	6	0	103	0	126	379	0	0	0	323	25	0	962
6:00 PM	0	0	0	0	11	0	107	0	156	376	0	0	0	332	29	0	1011
6:15 PM	0	0	0	0	6	0	82	0	107	288	0	0	0	404	30	0	917
6:30 PM	0	0	0	0	6	0	97	0	90	227	0	0	0	301	26	0	747
6:45 PM	0	0	0	0	12	0	69	0	84	355	0	0	0	285	16	0	821
7:00 PM	0	0	0	0	6	0	61	0	93	373	0	0	0	288	13	0	834
7:15 PM	0	0	0	0	6	0	65	0	84	350	0	0	0	271	6	0	782
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	0	0	0	0	85	0	1069	0	1172	4068	0	0	0	3803	220	0	10417
APPROACH %'s :					7.37%	0.00%	92.63%	0.00%	22.37%	77.63%	0.00%	0.00%	0.00%	94.53%	5.47%	0.00%	
PEAK HR :	05:30 PM - 06:30 PM																TOTAL
PEAK HR VOL :	0	0	0	0	29	0	410	0	491	1363	0	0	0	1419	105	0	3817
PEAK HR FACTOR :	0.000	0.000	0.000	0.000	0.659	0.000	0.869	0.000	0.787	0.899	0.000	0.000	0.000	0.878	0.875	0.000	0.944
					0.885				0.871				0.878				

Prepared by National Data & Surveying Services

N Hollywood Way & W Alameda Ave

Peak Hour Turning Movement Count

ID: 19-05223-013
City: Burbank

Day: Tuesday
Date: 04/23/2019

PEAK HOURS		COUNT PERIODS
08:30 AM - 09:30 AM	AM	07:00 AM - 10:00 AM
NONE	NOON	NONE
05:30 PM - 06:30 PM	PM	04:30 PM - 07:30 PM

N Hollywood Way
SOUTHBOUND

AM	520	1289	186	0	562	AM
NOON	0	0	0	0	0	NOON
PM	262	389	111	0	1220	PM
	1	2	2	0		

W Alameda Ave
EASTBOUND

AM	NOON	PM	
1430	0	1452	
0	0	0	0
72	0	200	1
648	0	818	3
141	0	70	0

CONTROL

Signalized

TEV	4459	0	4368
	AM	NOON	PM
PHF	0.98		0.91

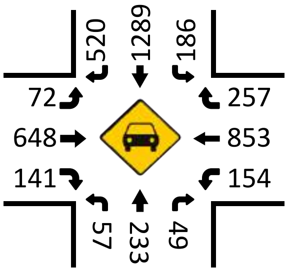
WESTBOUND
W Alameda Ave

	PM	NOON	AM
1	383	0	257
3	907	0	853
1	31	0	154
0	0	0	0
	1206	0	883

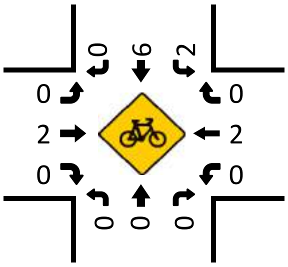
NORTHBOUND
N Hollywood Way

		0	1	2	1	
PM	490	0	283	637	277	PM
NOON	0	0	0	0	0	NOON
AM	1584	0	57	233	49	AM

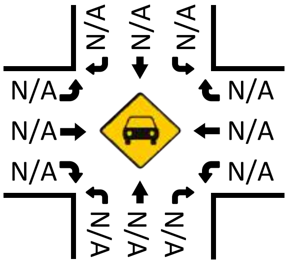
Total Vehicles (AM)



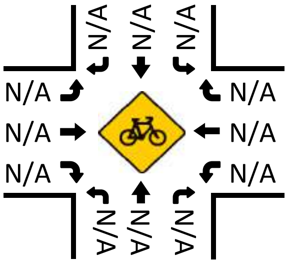
Bikes (AM)



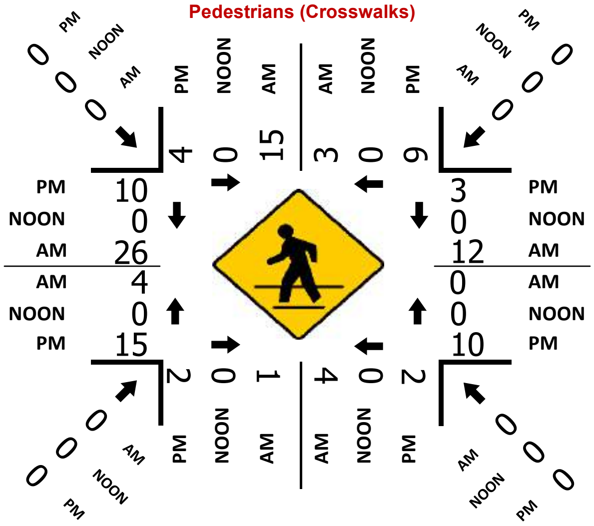
Total Vehicles (Noon)



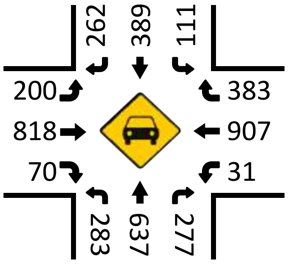
Bikes (NOON)



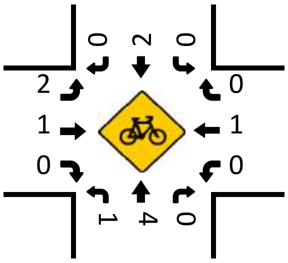
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



National Data & Surveying Services

Intersection Turning Movement Count

Location: Hollywood Way & Riverside Dr
City: Burbank
Control: Signalized

Project ID: 19-05221-011
Date: 4/23/2019

Total

NS/EW Streets:	Hollywood Way				Hollywood Way				Riverside Dr				Riverside Dr				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	2	49	1	0	19	142	89	0	7	12	5	0	0	16	13	0	355
7:15 AM	3	42	0	0	22	136	86	0	4	14	9	0	0	16	12	0	344
7:30 AM	3	61	1	0	21	154	133	0	7	14	8	0	3	23	9	0	437
7:45 AM	0	73	2	0	57	168	91	0	7	29	18	0	1	29	16	0	491
8:00 AM	2	89	0	0	67	162	80	0	7	72	18	0	3	29	24	0	553
8:15 AM	2	60	2	0	72	146	67	0	11	153	20	0	2	37	21	0	593
8:30 AM	4	46	0	0	100	207	119	0	13	108	29	0	6	36	22	0	690
8:45 AM	4	58	3	0	86	186	110	0	8	100	47	0	1	44	21	0	668
9:00 AM	0	50	0	0	119	198	112	1	12	80	32	0	3	39	16	0	662
9:15 AM	2	49	2	0	84	157	114	0	12	63	24	0	3	52	23	0	585
9:30 AM	11	78	0	0	51	150	85	0	16	52	30	0	1	34	22	0	530
9:45 AM	9	56	6	0	25	112	80	0	21	75	27	0	2	45	24	0	482
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	42	711	17	0	723	1918	1166	1	125	772	267	0	25	400	223	0	6390
APPROACH %'s :	5.45%	92.34%	2.21%	0.00%	18.99%	50.37%	30.62%	0.03%	10.74%	66.32%	22.94%	0.00%	3.86%	61.73%	34.41%	0.00%	
PEAK HR :	08:15 AM - 09:15 AM																TOTAL
PEAK HR VOL :	10	214	5	0	377	737	408	1	44	441	128	0	12	156	80	0	2613
PEAK HR FACTOR :	0.625	0.892	0.417	0.000	0.792	0.890	0.857	0.250	0.846	0.721	0.681	0.000	0.500	0.886	0.909	0.000	0.947
	0.881				0.885				0.833				0.939				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	2	0	0	1	2	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	7	137	11	0	13	62	55	0	19	47	10	0	1	52	69	0	483
4:45 PM	10	143	8	0	13	73	48	0	39	57	9	0	3	67	67	0	537
5:00 PM	23	149	7	0	17	76	48	1	25	59	9	0	3	82	105	0	604
5:15 PM	20	138	3	0	19	73	52	0	34	63	10	0	3	102	99	0	616
5:30 PM	13	150	5	0	19	65	43	0	28	71	5	0	1	120	99	0	619
5:45 PM	19	132	4	0	24	54	41	0	27	50	7	0	4	90	104	0	556
6:00 PM	24	208	8	0	19	56	40	1	24	73	6	0	0	110	122	0	691
6:15 PM	31	166	4	0	18	50	58	1	34	66	10	0	1	122	112	0	673
6:30 PM	28	123	5	0	14	51	52	0	31	67	6	0	3	103	84	0	567
6:45 PM	18	139	2	0	17	43	53	0	28	55	3	0	1	61	62	0	482
7:00 PM	29	152	3	0	17	43	53	0	29	44	6	1	0	66	70	1	514
7:15 PM	18	129	1	0	6	73	68	0	19	33	4	1	0	64	63	0	479
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	240	1766	61	0	196	719	611	3	337	685	85	2	20	1039	1056	1	6821
APPROACH %'s :	11.61%	85.44%	2.95%	0.00%	12.82%	47.02%	39.96%	0.20%	30.39%	61.77%	7.66%	0.18%	0.95%	49.10%	49.91%	0.05%	
PEAK HR :	05:30 PM - 06:30 PM																TOTAL
PEAK HR VOL :	87	656	21	0	80	225	182	2	113	260	28	0	6	442	437	0	2539
PEAK HR FACTOR :	0.702	0.788	0.656	0.000	0.833	0.865	0.784	0.500	0.831	0.890	0.700	0.000	0.375	0.906	0.895	0.000	0.919
	0.796				0.963				0.911				0.941				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Hollywood Way & Olive Ave
City: Burbank
Control: Signalized

Project ID: 19-05221-012
Date: 4/23/2019

Total

NS/EW Streets:	Hollywood Way				Hollywood Way				Olive Ave				Olive Ave				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	1.5	0.5	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	0	0	0	0	7	15	117	0	44	66	7	0	2	221	4	0	483
7:15 AM	0	0	1	0	6	9	106	0	45	115	4	0	6	213	8	0	513
7:30 AM	0	5	1	0	2	9	125	0	55	140	1	0	4	213	10	0	565
7:45 AM	0	1	0	0	7	21	140	0	71	157	7	0	5	209	9	1	628
8:00 AM	0	3	0	0	16	19	95	0	89	206	5	0	7	270	11	0	721
8:15 AM	0	1	0	0	11	18	125	0	64	234	13	0	8	242	14	0	730
8:30 AM	2	1	0	0	20	33	110	0	46	282	23	0	9	264	18	0	808
8:45 AM	7	6	9	0	20	57	140	1	58	258	16	0	15	235	13	0	835
9:00 AM	3	4	0	0	14	61	96	0	51	251	22	0	17	286	14	1	820
9:15 AM	2	2	4	0	21	50	109	0	45	262	19	0	12	239	17	1	783
9:30 AM	2	5	2	0	5	30	97	0	76	274	19	0	14	222	15	0	761
9:45 AM	2	5	3	0	10	19	95	0	65	260	17	1	9	191	19	0	696
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	18	33	20	0	139	341	1355	1	709	2505	153	1	108	2805	152	3	8343
APPROACH %'s :	25.35%	46.48%	28.17%	0.00%	7.57%	18.57%	73.80%	0.05%	21.05%	74.38%	4.54%	0.03%	3.52%	91.43%	4.95%	0.10%	
PEAK HR :	08:30 AM - 09:30 AM																TOTAL
PEAK HR VOL :	14	13	13	0	75	201	455	1	200	1053	80	0	53	1024	62	2	3246
PEAK HR FACTOR :	0.500	0.542	0.361	0.000	0.893	0.824	0.813	0.250	0.862	0.934	0.870	0.000	0.779	0.895	0.861	0.500	0.972
	0.455				0.839				0.949				0.897				

PM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	0	2	0	0	1	1.5	0.5	0	1	3	0	0	1	3	0	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	5	17	5	0	4	6	62	0	100	238	4	0	5	210	12	0	668
4:45 PM	2	16	6	0	4	4	64	0	116	245	0	0	3	205	10	0	675
5:00 PM	5	24	8	0	11	4	67	0	102	236	2	0	2	242	10	2	715
5:15 PM	9	31	5	0	7	7	65	0	104	218	0	0	1	261	13	0	721
5:30 PM	5	33	5	0	3	2	62	0	97	228	2	0	0	273	20	0	730
5:45 PM	11	34	4	0	6	5	50	1	99	258	5	0	1	244	10	0	728
6:00 PM	14	64	7	0	6	4	53	1	107	249	6	0	2	273	17	0	803
6:15 PM	13	67	11	0	11	7	55	0	104	198	13	0	4	258	10	0	751
6:30 PM	10	47	5	0	15	7	41	1	69	154	7	0	3	240	6	0	605
6:45 PM	10	47	8	0	4	8	41	0	93	241	7	0	2	223	10	0	694
7:00 PM	18	41	13	0	3	1	48	1	120	261	2	0	0	214	10	1	733
7:15 PM	6	38	2	0	5	0	70	0	102	225	0	0	1	186	7	0	642
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	108	459	79	0	79	55	678	4	1213	2751	48	0	24	2829	135	3	8465
APPROACH %'s :	16.72%	71.05%	12.23%	0.00%	9.68%	6.74%	83.09%	0.49%	30.23%	68.57%	1.20%	0.00%	0.80%	94.58%	4.51%	0.10%	
PEAK HR :	05:30 PM - 06:30 PM																TOTAL
PEAK HR VOL :	43	198	27	0	26	18	220	2	407	933	26	0	7	1048	57	0	3012
PEAK HR FACTOR :	0.768	0.739	0.614	0.000	0.591	0.643	0.887	0.500	0.951	0.904	0.500	0.000	0.438	0.960	0.713	0.000	0.938
	0.736				0.911				0.943				0.949				

Location: Olive Ave & Riverside Dr
City: Burbank

Project ID: 19-05221-014
Date: 4/23/2019

Pedestrians (Crosswalks)

NS/EW Streets:	Riverside Dr		Riverside Dr		Olive Ave		Olive Ave				
AM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		NORTH LEG 2 CUT OUT		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
7:00 AM	0	0	2	4	1	2	0	0	0	0	9
7:15 AM	0	0	1	2	0	0	0	1	0	0	4
7:30 AM	1	1	1	2	0	1	5	4	0	0	15
7:45 AM	1	0	3	0	1	0	1	3	0	0	9
8:00 AM	1	5	2	4	1	4	1	2	0	0	20
8:15 AM	0	3	2	2	0	0	1	9	0	0	17
8:30 AM	0	3	1	2	0	2	2	6	0	0	16
8:45 AM	0	2	2	2	1	2	3	8	0	0	20
9:00 AM	3	6	2	9	0	10	1	16	0	0	47
9:15 AM	3	1	2	4	1	0	2	11	0	0	24
9:30 AM	0	4	3	4	0	0	6	10	0	0	27
9:45 AM	0	0	3	5	4	0	1	0	0	0	13
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
TOTAL VOLUMES :	9	25	24	40	9	21	23	70	0	0	221
APPROACH %'s :	26.47%	73.53%	37.50%	62.50%	30.00%	70.00%	24.73%	75.27%			
PEAK HR :	08:15 AM - 09:15 AM										TOTAL
PEAK HR VOL :	3	14	7	15	1	14	7	39	0	0	100
PEAK HR FACTOR :	0.250	0.583	0.875	0.417	0.250	0.350	0.583	0.609			0.532
	0.472		0.500		0.375		0.676				

PM	NORTH LEG		SOUTH LEG		EAST LEG		WEST LEG		NORTH LEG 2 CUT OUT		
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
4:30 PM	2	2	2	5	0	1	5	0	2	6	25
4:45 PM	3	0	4	1	0	2	4	3	5	2	24
5:00 PM	1	5	1	3	1	2	9	2	0	0	24
5:15 PM	0	0	3	2	3	3	7	4	0	0	22
5:30 PM	4	2	0	3	0	1	11	3	0	0	24
5:45 PM	1	2	4	1	0	0	7	0	0	0	15
6:00 PM	1	1	6	0	1	6	6	0	0	0	21
6:15 PM	4	0	1	2	4	0	6	3	0	0	20
6:30 PM	1	0	3	0	0	2	17	0	0	0	23
6:45 PM	0	3	0	2	2	2	10	2	0	0	21
7:00 PM	3	2	4	0	3	2	13	3	0	0	30
7:15 PM	1	2	2	0	5	0	4	2	0	0	16
	EB	WB	EB	WB	NB	SB	NB	SB	EB	WB	TOTAL
TOTAL VOLUMES :	21	19	30	19	19	21	99	22	7	8	265
APPROACH %'s :	52.50%	47.50%	61.22%	38.78%	47.50%	52.50%	81.82%	18.18%			
PEAK HR :	05:15 PM - 06:15 PM										TOTAL
PEAK HR VOL :	6	5	13	6	4	10	31	7	0	0	82
PEAK HR FACTOR :	0.375	0.625	0.542	0.500	0.333	0.417	0.705	0.438			0.854
	0.458		0.792		0.500		0.679				

National Data & Surveying Services

Intersection Turning Movement Count

Location: Olive Ave & Alameda Ave
City: Burbank
Control: Signalized

Project ID: 19-05221-019
Date: 4/23/2019

Total

NS/EW Streets:	Olive Ave					Olive Ave					Alameda Ave					Alameda Ave											
AM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					SOUTHBOUND2						
	0	2	1	0	0	0	2	1	0	0	2	1.5	0.5	0	0	2	1.5	0.5	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
7:00 AM	0	45	21	0	0	0	148	63	0	0	17	29	2	0	0	55	38	3	0	0		0	0	0	3	0	424
7:15 AM	0	65	34	0	0	0	165	59	0	2	19	42	5	0	4	45	45	1	0	2		0	0	0	4	0	492
7:30 AM	0	77	42	0	0	0	157	85	0	4	31	50	6	0	2	54	61	2	0	0		0	0	0	5	0	576
7:45 AM	0	75	53	0	0	0	168	89	0	1	24	99	2	0	1	55	84	5	0	3		0	0	0	1	0	660
8:00 AM	0	71	81	0	0	0	228	120	0	2	32	191	2	0	0	57	62	5	0	0		0	0	0	4	0	855
8:15 AM	0	120	72	0	0	0	195	85	0	1	44	192	9	0	3	66	80	6	0	4		0	0	0	7	0	884
8:30 AM	0	98	99	0	0	0	229	119	0	1	50	137	5	0	1	65	77	5	0	4		0	0	0	8	0	898
8:45 AM	0	104	76	0	0	0	237	89	0	2	34	127	5	0	4	53	88	3	0	1		0	0	0	3	0	826
9:00 AM	0	119	63	0	0	0	252	87	0	2	42	120	9	0	3	69	100	3	0	2		0	0	0	5	0	876
9:15 AM	0	118	93	0	0	0	231	125	0	3	45	131	2	0	4	48	93	2	0	4		0	0	0	7	0	906
9:30 AM	0	117	73	0	0	0	172	97	0	3	38	80	6	0	6	63	81	5	0	5		0	0	0	10	0	756
9:45 AM	0	138	59	0	0	1	155	103	0	5	36	101	4	0	3	58	95	3	0	0		0	0	0	9	0	770
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
TOTAL VOLUMES :	0	1147	766	0	0	1	2337	1121	0	26	412	1299	57	0	31	688	904	43	0	25	0	0	0	0	66	0	8923
APPROACH %'s :	0.00%	59.96%	40.04%	0.00%	0.00%	0.03%	67.06%	32.17%	0.00%	0.75%	22.90%	72.21%	3.17%	0.00%	1.72%	41.45%	54.46%	2.59%	0.00%	1.51%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	
PEAK HR :	08:30 AM - 09:30 AM																										TOTAL
PEAK HR VOL :	0	439	331	0	0	0	949	420	0	8	171	515	21	0	12	235	358	13	0	11	0	0	0	0	23	0	3506
PEAK HR FACTOR :	0.000	0.922	0.836	0.000	0.000	0.000	0.941	0.840	0.000	0.667	0.855	0.940	0.583	0.000	0.750	0.851	0.895	0.650	0.000	0.688	0.000	0.000	0.000	0.000	0.719	0.000	0.967
			0.912					0.959					0.931					0.886					0.719				

PM	NORTHBOUND					SOUTHBOUND					EASTBOUND					WESTBOUND					SOUTHBOUND2						
	0	2	1	0	0	0	2	1	0	0	2	1.5	0.5	0	0	2	1.5	0.5	0	0	0	0	0	0	0	0	
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
4:30 PM	0	166	54	0	0	0	124	85	0	3	48	61	3	0	1	51	151	9	0	4		0	0	0	9	0	769
4:45 PM	0	214	66	0	0	0	143	79	0	2	48	68	2	0	4	37	149	5	0	3		0	0	0	11	0	831
5:00 PM	0	213	64	0	0	0	136	74	0	2	57	71	1	0	0	65	188	2	0	4		0	0	0	13	0	890
5:15 PM	0	208	59	1	0	0	151	74	0	2	62	85	1	0	2	83	186	4	0	3		0	0	1	15	0	937
5:30 PM	0	210	53	0	0	0	123	60	0	4	78	93	5	0	4	58	170	9	0	0		0	0	0	14	0	881
5:45 PM	0	221	75	0	0	0	139	73	0	2	71	75	4	0	1	44	158	8	0	3		0	0	0	13	0	887
6:00 PM	0	240	61	0	0	0	127	74	0	3	92	87	3	0	3	62	180	4	0	0		0	0	0	11	0	947
6:15 PM	0	187	60	0	0	0	106	63	0	3	74	91	4	0	3	82	175	5	0	2		0	0	0	14	0	869
6:30 PM	0	156	51	0	0	0	136	75	0	4	65	100	2	0	7	49	137	5	0	1		0	0	0	13	0	801
6:45 PM	0	223	59	0	0	0	145	86	1	3	72	73	1	0	1	58	118	8	0	4		0	0	0	13	0	865
7:00 PM	0	216	68	0	0	0	140	80	0	0	65	78	2	0	3	42	123	9	0	1		0	0	0	15	0	842
7:15 PM	0	159	71	0	0	0	109	78	0	0	81	73	3	0	4	51	98	7	0	1		0	0	0	11	0	746
	NL	NT	NR	NU	NT2	SL	ST	SR	SU	SU2	EL	ET	ER	EU	EL2	WL	WT	WR	WU	WR2	S2L	S2U	S2L2	S2T2	S2R2	S2U2	TOTAL
TOTAL VOLUMES :	0	2413	741	1	0	0	1579	901	1	28	813	955	31	0	33	682	1833	75	0	26	0	0	0	1	152	0	10265
APPROACH %'s :	0.00%	76.48%	23.49%	0.03%	0.00%	0.00%	62.93%	35.91%	0.04%	1.12%	44.38%	52.13%	1.69%	0.00%	1.80%	26.07%	70.07%	2.87%	0.00%	0.99%	0.00%	0.00%	0.00%	0.65%	99.35%	0.00%	
PEAK HR :	05:15 PM - 06:15 PM																										TOTAL
PEAK HR VOL :	0	879	248	1	0	0	540	281	0	11	303	340	13	0	10	247	694	25	0	6	0	0	0	1	53	0	3652
PEAK HR FACTOR :	0.000	0.916	0.827	0.250	0.000	0.000	0.894	0.949	0.000	0.688	0.823	0.914	0.650	0.000	0.625	0.744	0.933	0.694	0.000	0.500	0.000	0.000	0.000	0.250	0.883	0.000	0.964
			0.937					0.916					0.900					0.880					0.844				

ITM Peak Hour Summary

Prepared by:

NDS

National Data & Surveying Services

Buena Vista St and Glenoaks Blvd , Burbank

Date: 1/24/2017

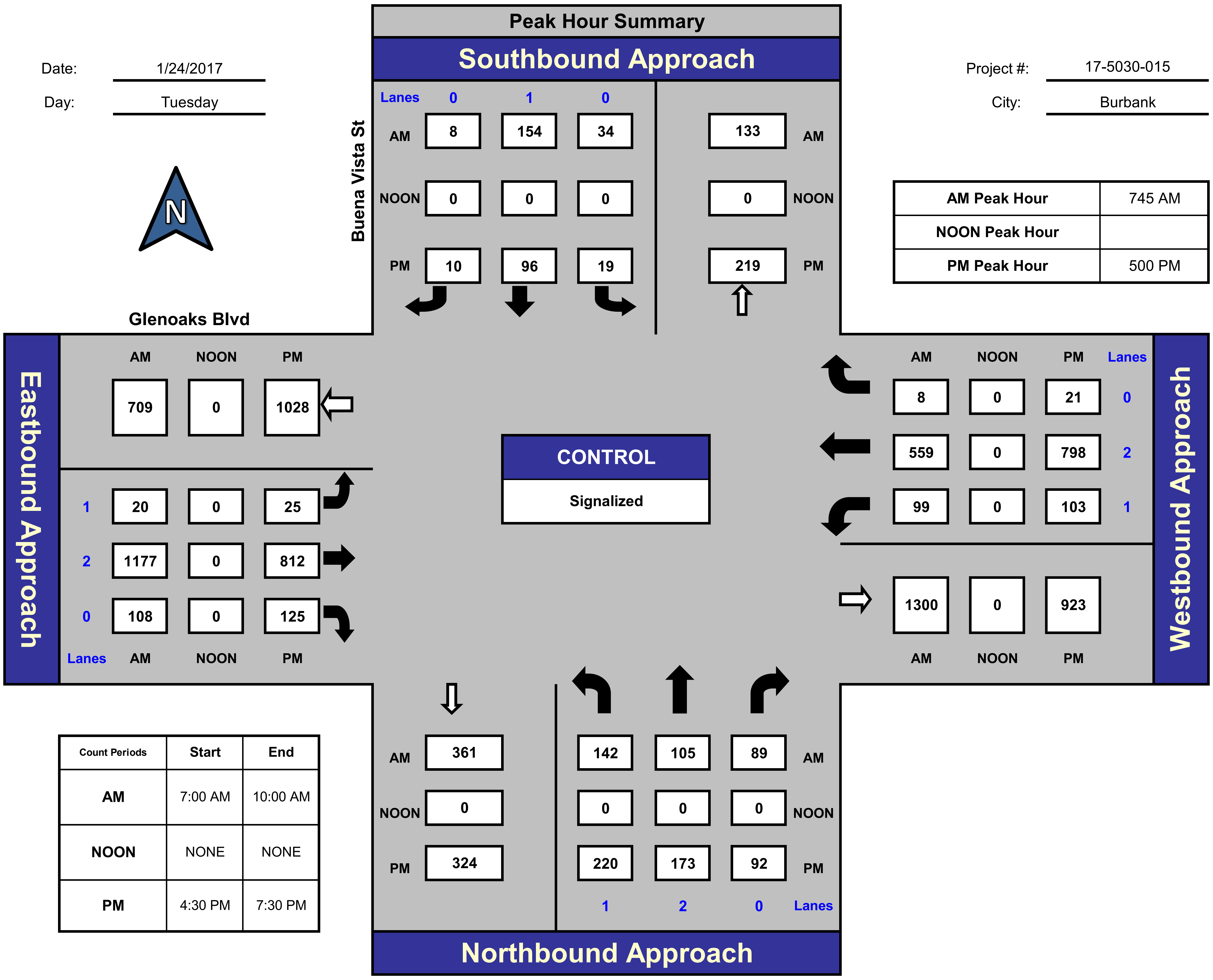
Day: Tuesday

Project #: 17-5030-015

City: Burbank

AM Peak Hour	745 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	10:00 AM
NOON	NONE	NONE
PM	4:30 PM	7:30 PM



Peak Hour Summary

Southbound Approach (Buena Vista St)

	↲	↓	↳	⇧
Lanes	0	1	0	
AM	8	154	34	133
NOON	0	0	0	0
PM	10	96	19	219

Westbound Approach

	AM	NOON	PM	Lanes
↰	8	0	21	0
←	559	0	798	2
↙	99	0	103	1
⇨	1300	0	923	

Eastbound Approach (Glenoaks Blvd)

Lanes		AM	NOON	PM
	⇦	709	0	1028
1	↱	20	0	25
2	→	1177	0	812
0	↴	108	0	125

CONTROL

Signalized

Northbound Approach

	⇩	↰	↑	↱
AM	361	142	105	89
NOON	0	0	0	0
PM	324	220	173	92
Lanes		1	2	0

Total Ins & Outs

North Leg

AM	196	133
NOON	0	0
PM	125	219

West Leg

AM	NOON	PM
709	0	1028
1305	0	962

East Leg

AM	NOON	PM
666	0	922
1300	0	923

South Leg

AM	361	336
NOON	0	0
PM	324	485

Total Volume Per Leg

North Leg

AM	329
NOON	0
PM	344

West Leg

AM	NOON	PM
2014	0	1990

East Leg

AM	NOON	PM
1966	0	1845

South Leg

AM	697
NOON	0
PM	809

National Data & Surveying Services

Intersection Turning Movement Count

Location: N Buena Vista St & N San Fernando Blvd
City: Burbank
Control: Signalized

Project ID: 19-05223-017
Date: 4/23/2019

Total

NS/EW Streets:	N Buena Vista St				N Buena Vista St				N San Fernando Blvd				N San Fernando Blvd				
AM	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
	1	2	0	0	1	2	1	0	1	2	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
7:00 AM	12	110	2	0	49	261	51	0	17	75	20	0	4	19	35	0	655
7:15 AM	5	116	1	0	50	267	45	0	16	136	26	0	5	18	36	0	721
7:30 AM	10	152	7	0	43	270	62	0	21	153	35	0	6	25	38	0	822
7:45 AM	1	141	6	0	60	269	70	0	31	191	38	0	8	40	41	0	896
8:00 AM	9	146	6	0	64	276	40	0	27	117	40	0	9	26	46	0	806
8:15 AM	6	195	2	0	56	323	42	0	25	128	48	0	7	31	35	0	898
8:30 AM	6	134	3	0	56	276	67	0	11	146	49	0	11	38	42	0	839
8:45 AM	5	133	3	0	63	328	41	0	18	154	37	0	11	30	30	0	853
9:00 AM	10	119	9	0	65	258	44	0	14	181	52	0	12	39	30	0	833
9:15 AM	11	129	6	0	53	252	49	0	16	118	38	0	8	24	33	0	737
9:30 AM	5	110	8	0	61	270	58	0	6	73	25	0	6	24	45	0	691
9:45 AM	11	126	3	0	56	274	61	0	12	79	23	0	7	38	48	0	738
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	91	1611	56	0	676	3324	630	0	214	1551	431	0	94	352	459	0	9489
APPROACH %'s :	5.18%	91.64%	3.19%	0.00%	14.60%	71.79%	13.61%	0.00%	9.74%	70.63%	19.63%	0.00%	10.39%	38.90%	50.72%	0.00%	
PEAK HR :	07:45 AM - 08:45 AM																TOTAL
PEAK HR VOL :	22	616	17	0	236	1144	219	0	94	582	175	0	35	135	164	0	3439
PEAK HR FACTOR :	0.611	0.790	0.708	0.000	0.922	0.885	0.782	0.000	0.758	0.762	0.893	0.000	0.795	0.844	0.891	0.000	0.957
		0.807				0.950				0.818				0.918			

	NORTHBOUND				SOUTHBOUND				EASTBOUND				WESTBOUND				
PM	1	2	0	0	1	2	1	0	1	2	0	0	1	2	1	0	
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
4:30 PM	15	233	5	0	56	199	48	0	34	60	18	0	15	63	149	0	895
4:45 PM	7	255	5	0	52	189	28	0	46	50	20	0	14	75	94	0	835
5:00 PM	13	265	4	0	47	172	32	0	45	84	16	0	14	89	123	0	904
5:15 PM	19	297	6	0	50	210	34	0	37	74	11	0	13	74	136	0	961
5:30 PM	15	254	12	0	49	178	19	0	43	68	17	0	10	81	113	0	859
5:45 PM	16	274	4	0	49	185	28	0	36	75	17	0	13	73	130	0	900
6:00 PM	14	289	2	0	38	170	27	0	42	62	11	0	16	72	126	0	869
6:15 PM	22	299	4	0	68	191	24	0	24	54	15	0	15	68	130	0	914
6:30 PM	12	273	3	0	52	189	38	0	30	52	8	0	13	54	120	0	844
6:45 PM	18	225	4	0	51	176	26	0	26	55	11	0	11	62	124	0	789
7:00 PM	5	255	4	0	52	163	20	0	26	67	9	0	16	52	114	0	783
7:15 PM	10	241	5	0	51	159	27	0	14	47	12	0	8	49	83	0	706
	NL	NT	NR	NU	SL	ST	SR	SU	EL	ET	ER	EU	WL	WT	WR	WU	TOTAL
TOTAL VOLUMES :	166	3160	58	0	615	2181	351	0	403	748	165	0	158	812	1442	0	10259
APPROACH %'s :	4.91%	93.38%	1.71%	0.00%	19.54%	69.30%	11.15%	0.00%	30.62%	56.84%	12.54%	0.00%	6.55%	33.67%	59.78%	0.00%	
PEAK HR :	05:00 PM - 06:00 PM																TOTAL
PEAK HR VOL :	63	1090	26	0	195	745	113	0	161	301	61	0	50	317	502	0	3624
PEAK HR FACTOR :	0.829	0.918	0.542	0.000	0.975	0.887	0.831	0.000	0.894	0.896	0.897	0.000	0.893	0.890	0.923	0.000	0.943
		0.915				0.895				0.902				0.961			

Prepared by National Data & Surveying Services

N Buena Vista St & W Empire Ave

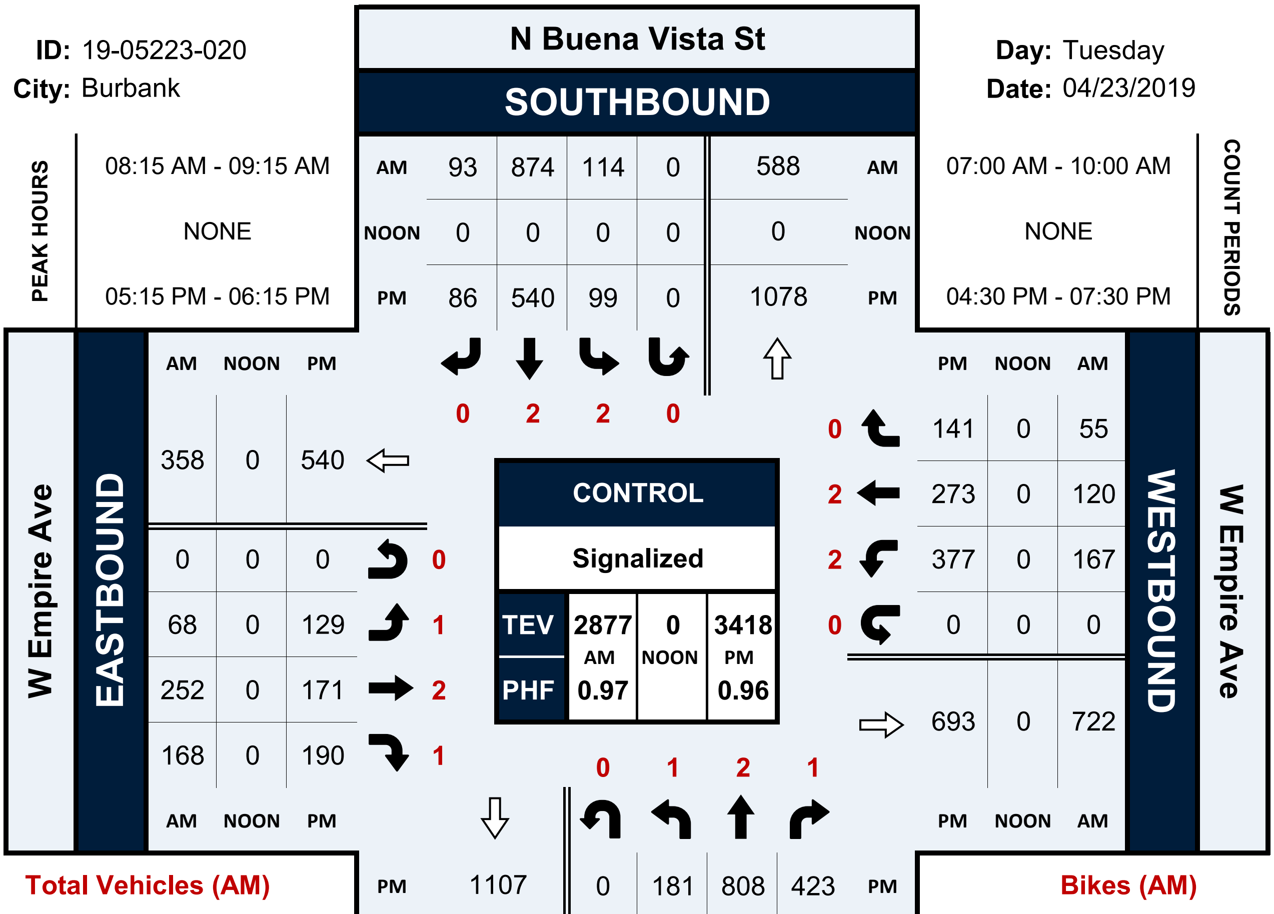
Peak Hour Turning Movement Count

ID: 19-05223-020
City: Burbank

Day: Tuesday
Date: 04/23/2019

PEAK HOURS	
AM	08:15 AM - 09:15 AM
NOON	NONE
PM	05:15 PM - 06:15 PM

COUNT PERIODS	
AM	07:00 AM - 10:00 AM
NOON	NONE
PM	04:30 PM - 07:30 PM



N Buena Vista St
SOUTHBOUND

AM	93	874	114	0	588
NOON	0	0	0	0	0
PM	86	540	99	0	1078
	0	2	2	0	

W Empire Ave
EASTBOUND

AM	NOON	PM	
358	0	540	
0	0	0	0
68	0	129	1
252	0	171	2
168	0	190	1

W Empire Ave
WESTBOUND

	PM	NOON	AM
0	141	0	55
2	273	0	120
2	377	0	167
0	0	0	0
	693	0	722

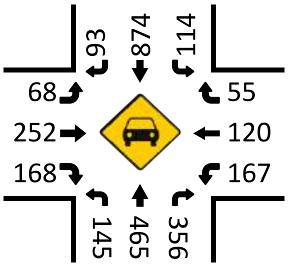
NORTHBOUND
N Buena Vista St

		0	1	2	1
PM	1107	0	181	808	423
NOON	0	0	0	0	0
AM	1209	0	145	465	356

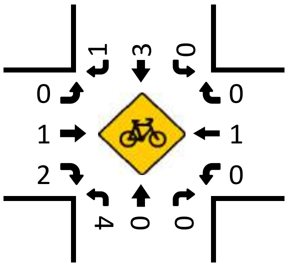
CONTROL
Signalized

	AM	NOON	PM
TEV	2877	0	3418
PHF	0.97		0.96

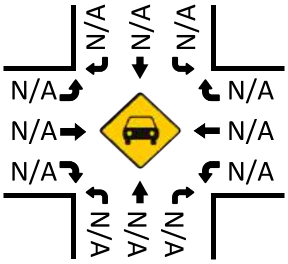
Total Vehicles (AM)



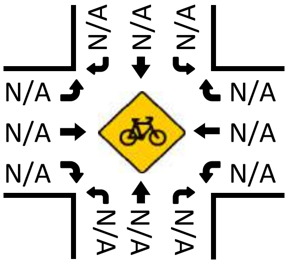
Bikes (AM)



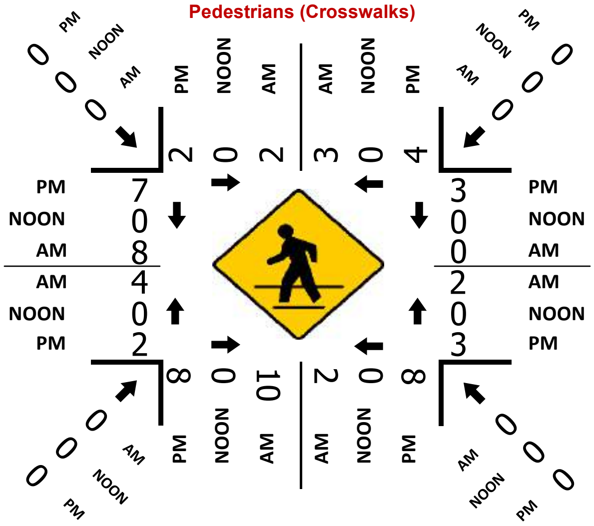
Total Vehicles (Noon)



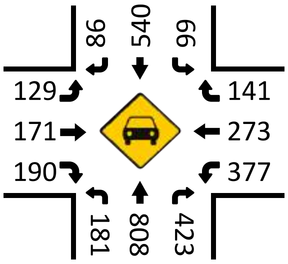
Bikes (NOON)



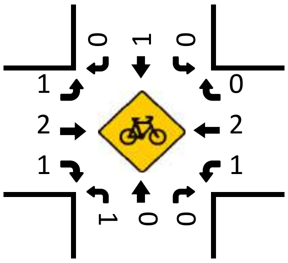
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



WILTEC

Phone: (626)

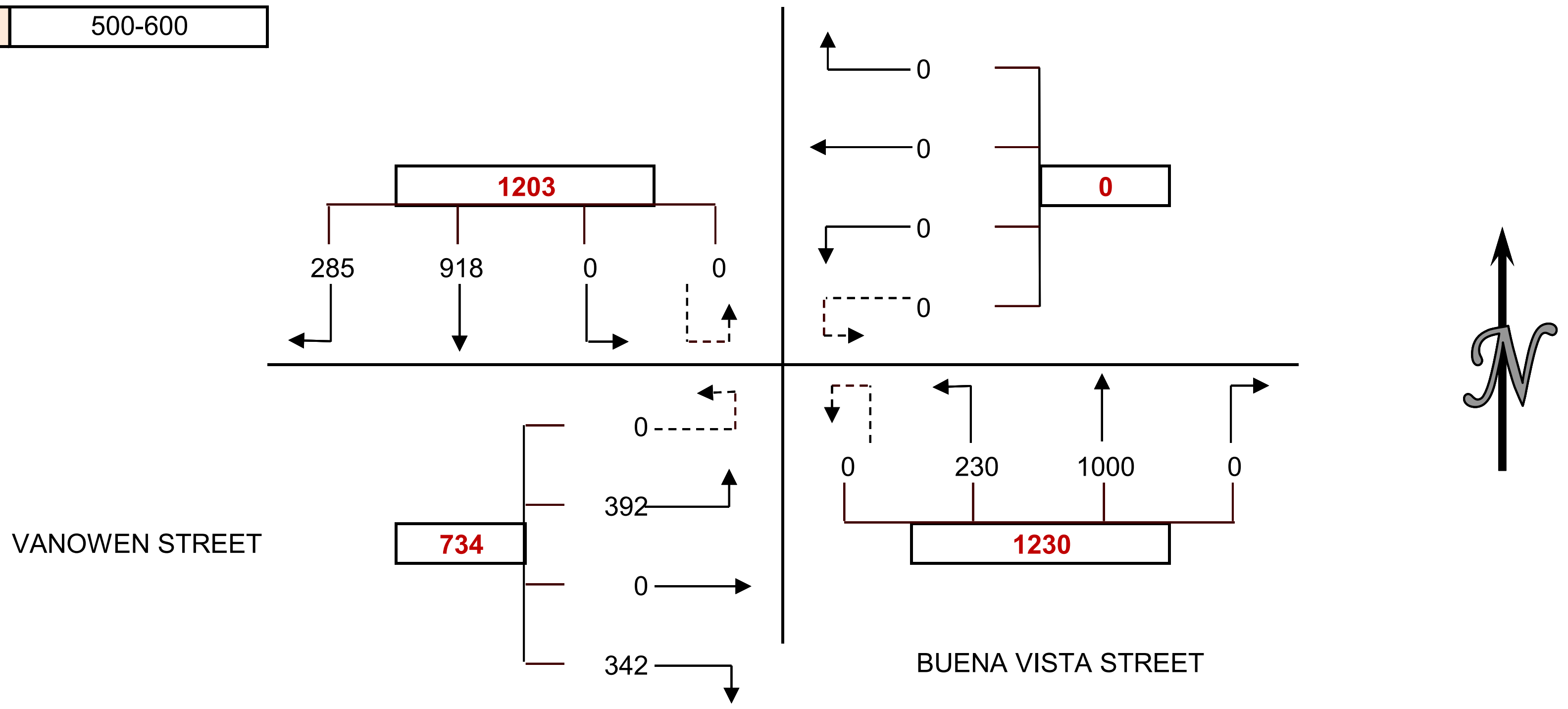
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		DUDEK
PROJECT:		BURBANK TRAFFIC COUNTS
DATE:		TUESDAY MAY 7, 2019
PERIOD:		4:30 PM TO 7:30 PM
INTERSECTION:	N/S	BUENA VISTA STREET
	E/W	VANOWEN STREET
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
430-445	65	222	0	0	0	0	0	0	0	237	50	0	86
445-500	47	184	0	0	0	0	0	0	0	231	54	0	77
500-515	80	233	0	0	0	0	0	0	0	246	46	0	98
515-530	69	218	0	0	0	0	0	0	0	232	78	0	89
530-545	75	261	0	0	0	0	0	0	0	270	62	0	85
545-600	61	206	0	0	0	0	0	0	0	252	44	0	70
600-615	66	225	0	0	0	0	0	0	0	224	50	0	81
615-630	84	262	0	0	0	0	0	0	0	251	53	0	104
630-645	56	204	0	0	0	0	0	0	0	244	55	0	73
645-700	55	182	0	0	0	0	0	0	0	215	30	0	71
700-715	64	149	0	0	0	0	0	0	0	197	43	0	60
715-730	58	178	0	0	0	0	0	0	0	187	37	0	63
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
430-530	261	857	0	0	0	0	0	0	0	946	228	0	350
445-545	271	896	0	0	0	0	0	0	0	979	240	0	349
500-600	285	918	0	0	0	0	0	0	0	1000	230	0	342
515-615	271	910	0	0	0	0	0	0	0	978	234	0	325
530-630	286	954	0	0	0	0	0	0	0	997	209	0	340
545-645	267	897	0	0	0	0	0	0	0	971	202	0	328
600-700	261	873	0	0	0	0	0	0	0	934	188	0	329
615-715	259	797	0	0	0	0	0	0	0	907	181	0	308
630-730	233	713	0	0	0	0	0	0	0	843	165	0	267

PEAK HOUR	500-600



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
430-445	3	3	0	1	7
445-500	3	3	0	0	6

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
430-445	0	0	0	0
445-500	1	0	0	0

500-515	1	1	0	1	3
515-530	1	1	0	0	2
530-545	2	2	0	0	4
545-600	3	3	0	0	6
600-615	0	0	0	0	0
615-630	1	1	0	0	2
630-645	2	2	0	1	5
645-700	0	0	0	0	0
700-715	0	0	0	0	0
715-730	0	0	0	1	1
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
430-530	8	8	0	2	18
445-545	7	7	0	1	15
500-600	7	7	0	1	15
515-615	6	6	0	0	12
530-630	6	6	0	0	12

500-515	0	0	0	1
515-530	1	0	0	2
530-545	0	0	0	1
545-600	0	0	0	0
600-615	0	0	0	0
615-630	0	0	0	0
630-645	0	0	0	1
645-700	0	0	0	0
700-715	0	0	1	0
715-730	0	0	0	0
HOUR TOTALS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
430-530	2	0	0	3
445-545	2	0	0	4
500-600	1	0	0	4
515-615	1	0	0	3
530-630	0	0	0	1

564-1944

11 EBTH
0
0
0
0
0
0
0
0
0
0
0
0
11 EBTH
0
0
0
0
0
0
0
0
0

TOTAL
0
1

1
3
1
0
0
0
1
0
1
0
TOTAL
5
6
5
4
1

WILTEC

Phone: (626) 56

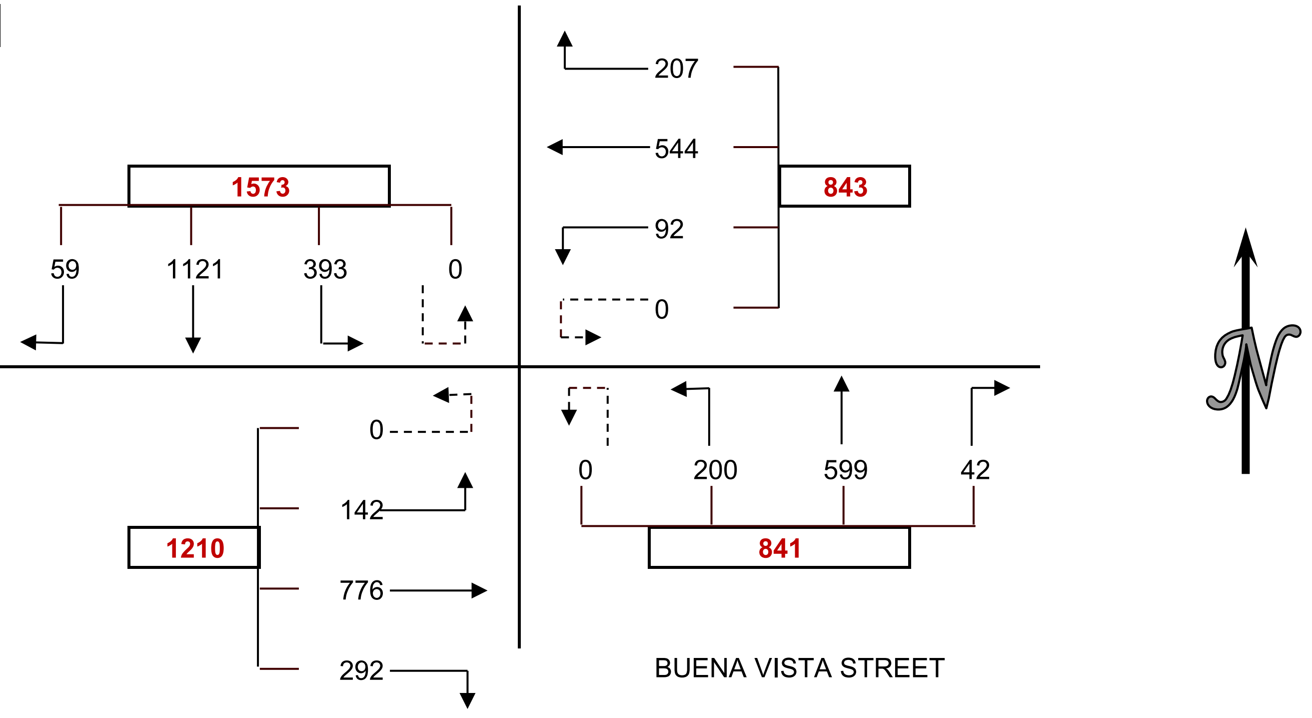
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DUDEK
PROJECT: BURBANK TRAFFIC COUNTS
DATE: TUESDAY MAY 7, 2019
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: N/S BUENA VISTA STREET
E/W VICTORY BOULEVARD
CITY: BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-715	19	243	83	0	43	89	13	0	5	92	19	0	43
715-730	17	242	81	0	41	107	15	0	4	106	17	0	64
730-745	22	282	104	0	38	122	19	0	9	132	36	0	95
745-800	14	243	93	0	62	180	19	0	13	157	61	0	66
800-815	11	272	91	0	50	119	30	0	10	171	58	0	58
815-830	12	324	105	0	57	123	24	0	10	139	45	0	73
830-845	16	298	87	0	48	104	50	0	17	127	42	0	54
845-900	16	292	73	0	56	126	22	0	13	144	46	0	49
900-915	11	306	100	0	64	97	28	0	8	134	42	0	31
915-930	19	239	91	0	58	80	19	0	16	151	44	0	44
930-945	8	201	76	0	52	96	17	0	13	119	26	0	64
945-1000	29	226	58	0	41	96	24	0	20	136	27	0	36
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-800	72	1010	361	0	184	498	66	0	31	487	133	0	268
715-815	64	1039	369	0	191	528	83	0	36	566	172	0	283
730-830	59	1121	393	0	207	544	92	0	42	599	200	0	292
745-845	53	1137	376	0	217	526	123	0	50	594	206	0	251
800-900	55	1186	356	0	211	472	126	0	50	581	191	0	234
815-915	55	1220	365	0	225	450	124	0	48	544	175	0	207
830-930	62	1135	351	0	226	407	119	0	54	556	174	0	178
845-945	54	1038	340	0	230	399	86	0	50	548	158	0	188
900-1000	67	972	325	0	215	369	88	0	57	540	139	0	175

PEAK HOUR	730-830



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	3	3	0	2	8
715-730	2	2	0	0	4

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-715	2	2	1	1
715-730	0	0	0	0

730-745	0	0	2	3	5
745-800	5	5	3	1	14
800-815	4	4	7	6	21
815-830	4	4	1	7	16
830-845	3	3	6	3	15
845-900	6	6	7	1	20
900-915	6	6	3	3	18
915-930	13	13	2	3	31
930-945	13	13	2	0	28
945-1000	4	4	4	4	16
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD					
700-800	10	10	5	6	31
715-815	11	11	12	10	44
730-830	13	13	13	17	56
745-845	16	16	17	17	66
800-900	17	17	21	17	72

730-745	0	0	0	0
745-800	0	0	1	0
800-815	2	1	0	0
815-830	0	2	0	0
830-845	0	1	2	0
845-900	0	2	1	0
900-915	0	1	0	0
915-930	1	0	2	0
930-945	2	1	1	1
945-1000	0	0	1	1
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
PERIOD				
700-800	2	2	2	1
715-815	2	1	1	0
730-830	2	3	1	0
745-845	2	4	3	0
800-900	2	6	3	0

11 EBTH
102
152
192
205
218
161
159
126
120
123
173
145
11 EBTH
651
767
776
743
664
566
528
542
561

TOTAL
6
0

0
1
3
2
3
3
1
3
5
2
TOTAL
7
4
6
9
11

WILTEC

Phone: (626) 56

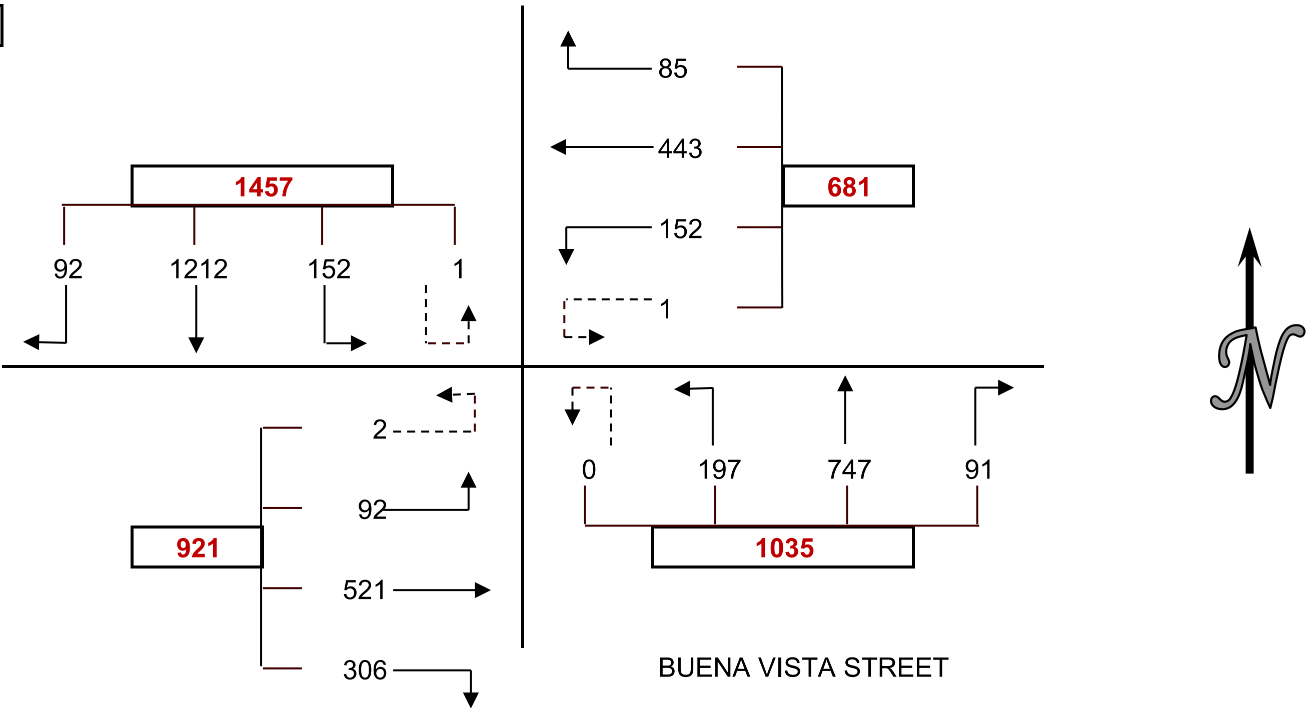
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		DUDEK
PROJECT:		BURBANK TRAFFIC COUNTS
DATE:		THURSDAY MAY 23, 2019
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	BUENA VISTA STREET
	E/W	BURBANK BOULEVARD
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-715	15	210	22	0	11	59	14	0	5	106	18	0	33
715-730	19	290	24	0	24	79	30	0	6	125	27	0	47
730-745	17	328	20	0	11	97	44	1	13	155	50	0	101
745-800	23	296	35	0	27	130	26	0	13	195	52	0	100
800-815	23	276	44	1	27	98	42	0	32	225	60	0	49
815-830	29	312	53	0	20	118	40	0	33	172	35	0	56
830-845	23	293	32	0	25	100	36	0	21	153	20	0	57
845-900	27	291	25	1	20	77	35	0	21	133	29	0	50
900-915	21	238	20	0	12	99	40	0	17	122	32	1	50
915-930	16	239	23	0	17	88	26	0	15	149	28	0	39
930-945	30	227	22	0	16	82	30	0	20	139	25	0	46
945-1000	26	221	21	0	9	98	32	0	25	171	30	0	36
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-800	74	1124	101	0	73	365	114	1	37	581	147	0	281
715-815	82	1190	123	1	89	404	142	1	64	700	189	0	297
730-830	92	1212	152	1	85	443	152	1	91	747	197	0	306
745-845	98	1177	164	1	99	446	144	0	99	745	167	0	262
800-900	102	1172	154	2	92	393	153	0	107	683	144	0	212
815-915	100	1134	130	1	77	394	151	0	92	580	116	1	213
830-930	87	1061	100	1	74	364	137	0	74	557	109	1	196
845-945	94	995	90	1	65	346	131	0	73	543	114	1	185
900-1000	93	925	86	0	54	367	128	0	77	581	115	1	171

PEAK HOUR	730-830



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	0	0	0	0	0
715-730	0	0	0	1	1

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-715	0	0	0	0
715-730	0	0	0	0

730-745	0	0	0	0	0
745-800	0	0	0	1	1
800-815	4	4	0	2	10
815-830	2	2	0	2	6
830-845	4	4	0	2	10
845-900	0	0	0	0	0
900-915	1	1	0	3	5
915-930	0	0	1	1	2
930-945	2	2	2	4	10
945-1000	1	1	0	0	2
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD					
700-800	0	0	0	2	2
715-815	4	4	0	4	12
730-830	6	6	0	5	17
745-845	10	10	0	7	27
800-900	10	10	0	6	26

730-745	1	0	0	0
745-800	0	0	0	0
800-815	0	0	0	0
815-830	0	0	0	0
830-845	0	0	0	0
845-900	1	1	0	0
900-915	0	0	0	0
915-930	0	0	0	0
930-945	0	0	0	0
945-1000	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
PERIOD				
700-800	1	0	0	0
715-815	1	0	0	0
730-830	1	0	0	0
745-845	0	0	0	0
800-900	1	1	0	0

11 EBTH
66
89
120
159
105
137
129
105
133
101
118
110
11 EBTH
434
473
521
530
476
504
468
457
462

TOTAL
0
0

1
0
0
0
0
2
0
0
0
0
TOTAL
1
1
1
0
2

WILTEC

Phone: (626) 56

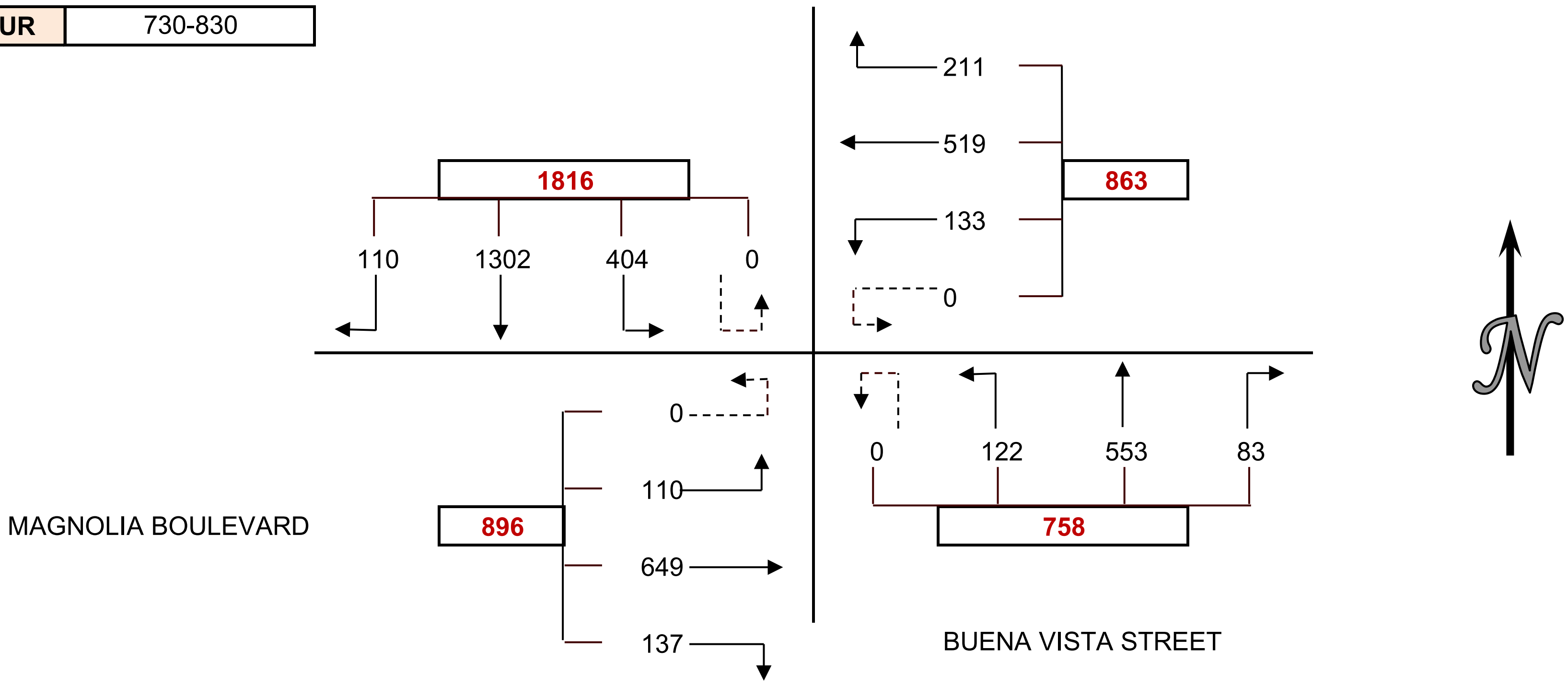
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		DUDEK
PROJECT:		BURBANK TRAFFIC COUNTS
DATE:		THURSDAY MAY 2, 2019
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	BUENA VISTA STREET
	E/W	MAGNOLIA BOULEVARD
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-715	12	206	41	0	25	76	35	0	16	81	15	0	20
715-730	15	268	41	0	26	80	31	0	12	65	7	0	25
730-745	19	361	113	0	47	104	23	0	18	107	24	0	46
745-800	29	326	128	0	59	169	45	0	19	194	37	0	24
800-815	25	279	78	0	70	122	30	0	18	128	35	0	27
815-830	37	336	85	0	35	124	35	0	28	124	26	0	40
830-845	21	284	57	0	38	156	37	0	19	117	24	0	36
845-900	39	333	98	0	23	114	38	0	35	108	30	0	38
900-915	19	285	53	0	29	131	38	1	16	109	27	0	25
915-930	33	241	50	0	29	131	32	0	15	108	32	0	39
930-945	23	205	42	0	29	111	27	1	20	131	22	0	-59
945-1000	39	189	48	0	29	99	34	0	30	112	26	0	130
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-800	75	1161	323	0	157	429	134	0	65	447	83	0	115
715-815	88	1234	360	0	202	475	129	0	67	494	103	0	122
730-830	110	1302	404	0	211	519	133	0	83	553	122	0	137
745-845	112	1225	348	0	202	571	147	0	84	563	122	0	127
800-900	122	1232	318	0	166	516	140	0	100	477	115	0	141
815-915	116	1238	293	0	125	525	148	1	98	458	107	0	139
830-930	112	1143	258	0	119	532	145	1	85	442	113	0	138
845-945	114	1064	243	0	110	487	135	2	86	456	111	0	43
900-1000	114	920	193	0	116	472	131	2	81	460	107	0	135

PEAK HOUR	730-830



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	2	2	1	3	8
715-730	1	1	0	0	2

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-715	0	1	3	0
715-730	0	1	0	0

730-745	1	1	1	1	4
745-800	4	4	1	1	10
800-815	1	1	1	3	6
815-830	4	4	4	3	15
830-845	4	4	1	1	10
845-900	6	6	4	3	19
900-915	1	1	3	3	8
915-930	2	2	2	4	10
930-945	3	3	0	1	7
945-1000	2	2	1	4	9
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	8	8	3	5	24
715-815	7	7	3	5	22
730-830	10	10	7	8	35
745-845	13	13	7	8	41
800-900	15	15	10	10	50

730-745	0	0	1	0
745-800	1	0	1	5
800-815	1	0	3	0
815-830	0	0	3	1
830-845	1	0	1	0
845-900	1	1	3	0
900-915	0	0	3	1
915-930	0	0	4	1
930-945	1	0	1	0
945-1000	0	0	4	1
HOUR TOTALS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-800	1	2	5	5
715-815	2	1	5	5
730-830	2	0	8	6
745-845	3	0	8	6
800-900	3	1	10	1

11 EBTH
66
97
157
198
155
139
143
177
125
114
156
140
11 EBTH
518
607
649
635
614
584
559
572
535

TOTAL
4
1

1
7
4
4
2
5
4
5
2
5
TOTAL
13
13
16
17
15

Prepared by National Data & Surveying Services

Buena Vista St & Olive Ave

Peak Hour Turning Movement Count

ID: 19-05221-021
City: Burbank

Day: Tuesday
Date: 04/23/2019

	PEAK HOURS	COUNT PERIODS
AM	08:15 AM - 09:15 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:00 PM - 06:00 PM	04:30 PM - 07:30 PM

Buena Vista St
SOUTHBOUND

AM	450	1045	100	0	573	AM
NOON	0	0	0	0	0	NOON
PM	186	397	95	0	1197	PM
	1	2	1	0		

Olive Ave
EASTBOUND

AM	NOON	PM	
1462	0	902	
1	0	0	0
170	0	339	1
468	0	951	2
108	0	96	0

CONTROL

Signalized

	AM	NOON	PM
TEV	4037	0	3918
PHF	0.95		0.94

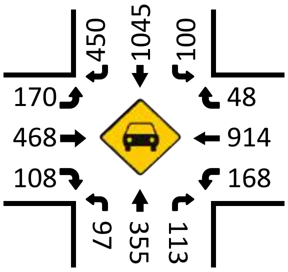
Olive Ave
WESTBOUND

	PM	NOON	AM
0	57	0	48
2	615	0	914
1	124	0	168
0	0	0	0
	1202	0	681

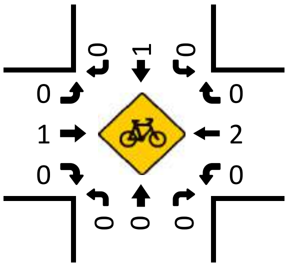
NORTHBOUND
Buena Vista St

		0	1	2	1	
PM	617	0	101	801	156	PM
NOON	0	0	0	0	0	NOON
AM	1321	0	97	355	113	AM

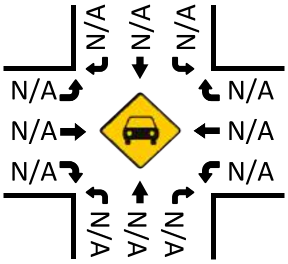
Total Vehicles (AM)



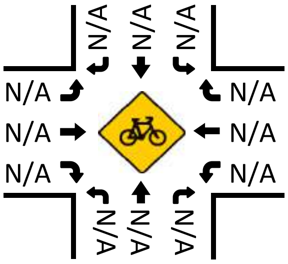
Bikes (AM)



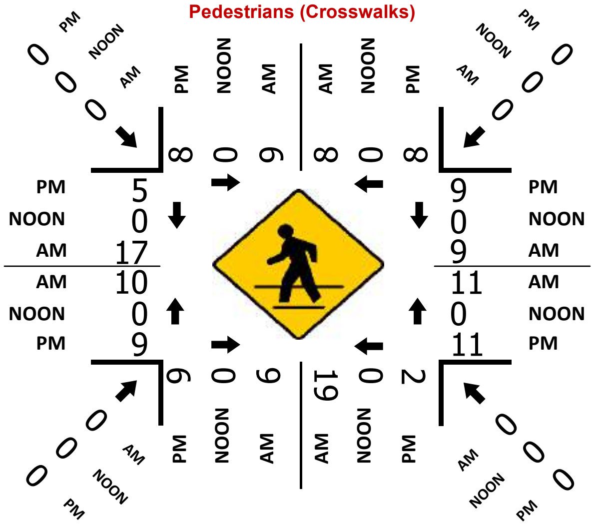
Total Vehicles (Noon)



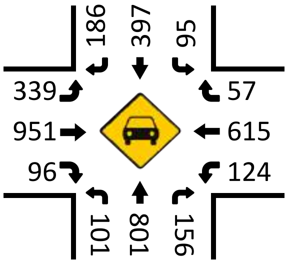
Bikes (NOON)



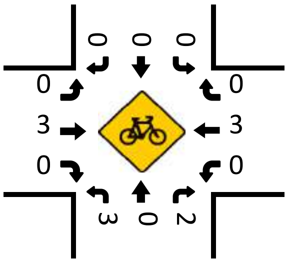
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Buena Vista St & Alameda Ave

Peak Hour Turning Movement Count

ID: 19-05221-022
City: Burbank

Day: Tuesday
Date: 04/23/2019

PEAK HOURS		COUNT PERIODS
07:45 AM - 08:45 AM	AM	07:00 AM - 10:00 AM
NONE	NOON	NONE
05:30 PM - 06:30 PM	PM	04:30 PM - 07:30 PM

Buena Vista St
SOUTHBOUND

	↲	↓	↳	U	⇧	
AM	188	687	271	0	621	AM
NOON	0	0	0	0	0	NOON
PM	61	320	269	0	1133	PM
	1	2	1	0		

Alameda Ave
EASTBOUND

	AM	NOON	PM	
⇦	991	0	713	
U	0	0	0	0
↰	202	0	225	2
→	616	0	987	2
↱	123	0	133	1

Alameda Ave
WESTBOUND

		PM	NOON	AM
1	↰	215	0	117
2	←	545	0	590
2	↲	231	0	234
0	U	0	0	0
	⇨	1390	0	1106

CONTROL

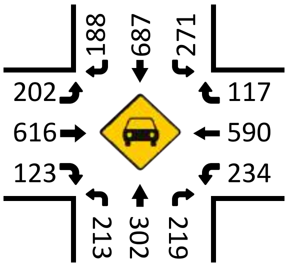
Signalized

	AM	NOON	PM
TEV	3762	0	3920
PHF	0.90		0.94

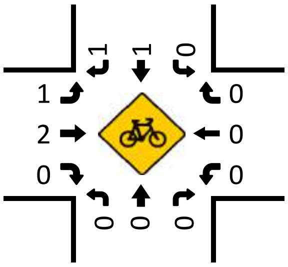
NORTHBOUND
Buena Vista St

		U	↰	↑	↱	
		0	1	2	1	
	⇩					
PM	684	0	107	693	134	PM
NOON	0	0	0	0	0	NOON
AM	1044	0	213	302	219	AM

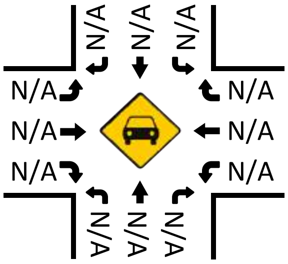
Total Vehicles (AM)



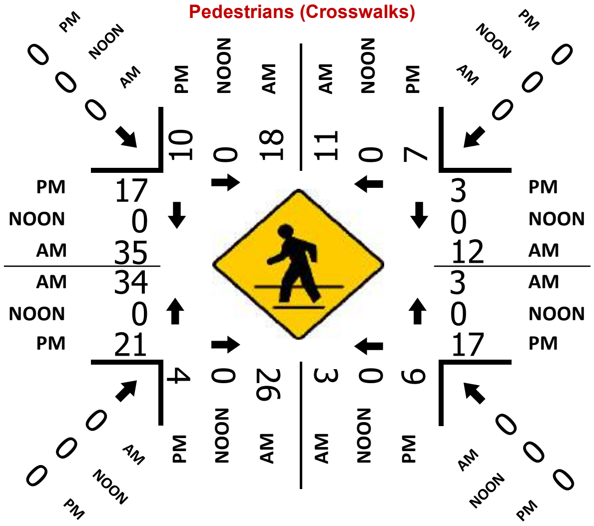
Bikes (AM)



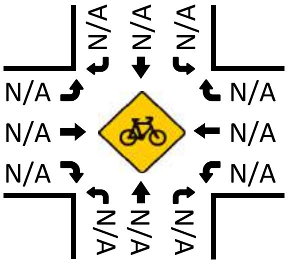
Total Vehicles (Noon)



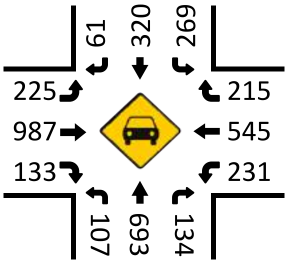
Pedestrians (Crosswalks)



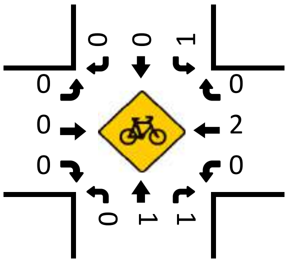
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

Buena Vista St/SR-134 Ramps/Riverside Dr & SR-134 Ramps/Riverside Dr

Peak Hour Turning Movement Count

ID: 19-05221-023
City: Burbank

Day: Tuesday
Date: 04/23/2019

	PEAK HOURS	COUNT PERIODS
AM	08:15 AM - 09:15 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:30 PM - 06:30 PM	04:30 PM - 07:30 PM

Buena Vista St/SR-134 Ramps/Riverside Dr

SOUTHBOUND

AM	46	280	266	0	742
NOON	0	0	0	0	0
PM	37	184	108	0	940
	1.5	1.5	1	0	

SR-134 Ramps/Riverside Dr

EASTBOUND

	AM	NOON	PM	
	581	0	431	
	0	0	0	0
	78	0	68	0
	773	0	856	0
	1	0	0	0

CONTROL

Signalized

	AM	NOON	PM
TEV	2962	0	2653
PHF	0.95		0.96

SR-134 Ramps/Riverside Dr

WESTBOUND

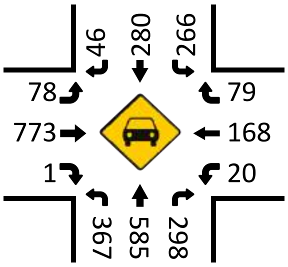
	PM	NOON	AM
1	223	0	79
2	274	0	168
1	65	0	20
0	0	0	0
	1033	0	1337

NORTHBOUND

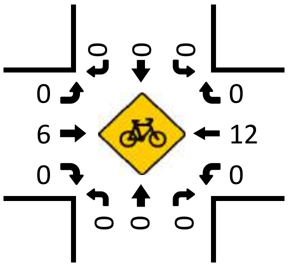
ena Vista St/SR-134 Ramps/Riverside

		0	1	1.5	0.5
PM	249	0	120	649	69
NOON	0	0	0	0	0
AM	302	1	367	585	298

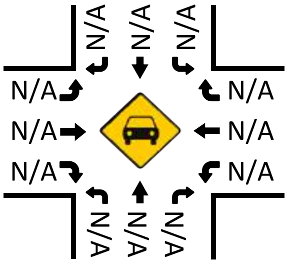
Total Vehicles (AM)



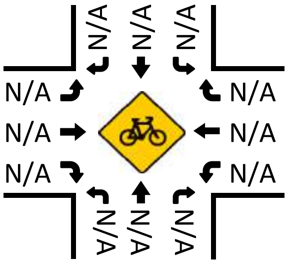
Bikes (AM)



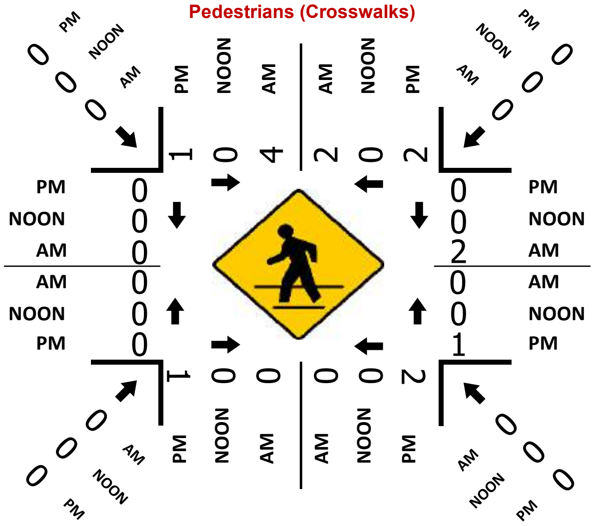
Total Vehicles (Noon)



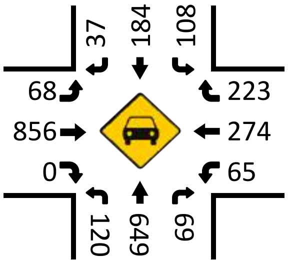
Bikes (NOON)



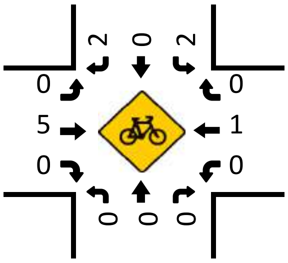
Pedestrians (Crosswalks)



Total Vehicles (PM)



Bikes (PM)



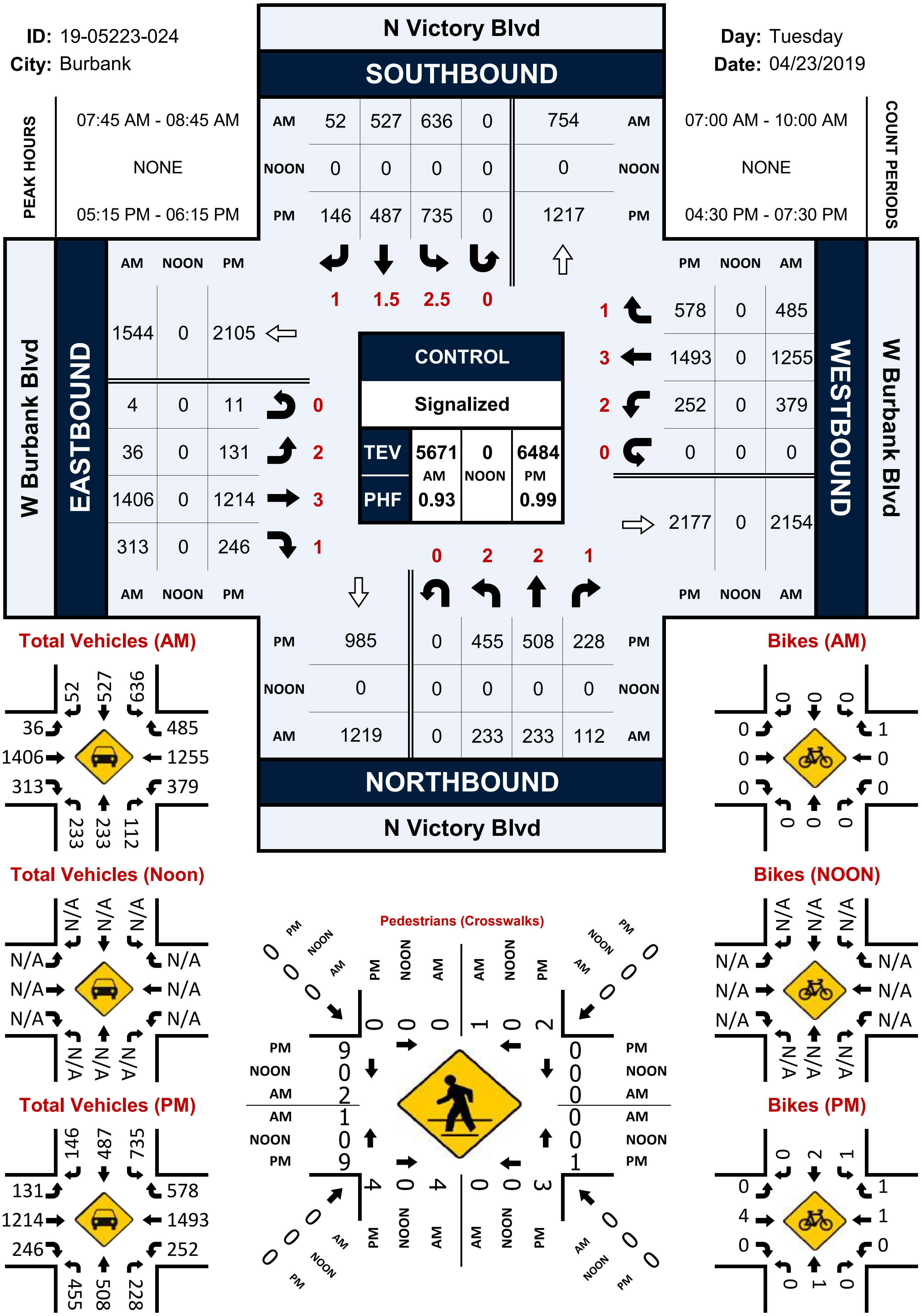
Prepared by National Data & Surveying Services

N Victory Blvd & W Burbank Blvd

Peak Hour Turning Movement Count

ID: 19-05223-024
City: Burbank

Day: Tuesday
Date: 04/23/2019



WILTEC

Phone: (626) 56

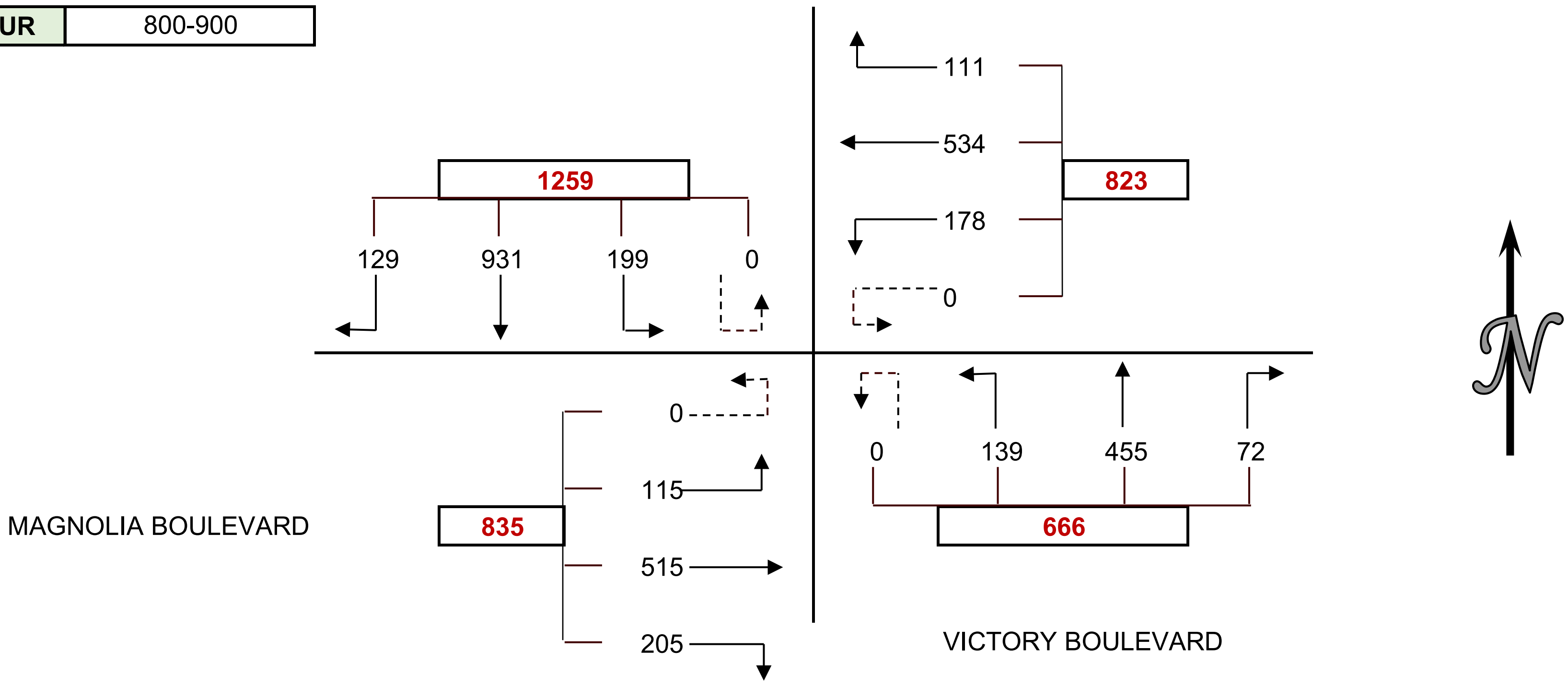
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DUDEK
PROJECT: BURBANK TRAFFIC COUNTS
DATE: WEDNESDAY MAY 8, 2019
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: N/S VICTORY BOULEVARD
E/W MAGNOLIA BOULEVARD
CITY: BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-715	24	131	25	0	22	57	32	0	7	71	14	0	31
715-730	21	208	50	0	28	89	30	0	11	80	32	0	45
730-745	29	184	38	0	24	123	34	1	16	114	31	0	33
745-800	34	247	47	0	26	128	33	0	11	119	41	0	51
800-815	41	266	49	0	23	141	47	0	15	107	41	0	65
815-830	29	213	37	0	25	119	51	0	18	104	36	0	37
830-845	28	226	53	0	28	126	46	0	18	115	30	0	57
845-900	31	226	60	0	35	148	34	0	21	129	32	0	46
900-915	36	195	40	0	38	128	33	0	13	99	11	0	57
915-930	34	216	39	0	44	121	28	0	12	113	29	0	45
930-945	21	125	37	0	38	105	21	0	19	117	30	0	45
945-1000	25	169	39	0	29	136	31	0	23	128	28	0	40
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-800	108	770	160	0	100	397	129	1	45	384	118	0	160
715-815	125	905	184	0	101	481	144	1	53	420	145	0	194
730-830	133	910	171	0	98	511	165	1	60	444	149	0	186
745-845	132	952	186	0	102	514	177	0	62	445	148	0	210
800-900	129	931	199	0	111	534	178	0	72	455	139	0	205
815-915	124	860	190	0	126	521	164	0	70	447	109	0	197
830-930	129	863	192	0	145	523	141	0	64	456	102	0	205
845-945	122	762	176	0	155	502	116	0	65	458	102	0	193
900-1000	116	705	155	0	149	490	113	0	67	457	98	0	187

PEAK HOUR	800-900



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	1	1	1	2	5
715-730	1	1	0	4	6

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-715	0	1	0	0
715-730	2	0	0	2

730-745	2	2	2	1	7
745-800	3	3	4	2	12
800-815	5	5	2	1	13
815-830	2	2	1	1	6
830-845	0	0	1	2	3
845-900	2	2	2	2	8
900-915	3	3	0	2	8
915-930	1	1	2	6	10
930-945	3	3	3	1	10
945-1000	1	1	2	5	9
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	7	7	7	9	30
715-815	11	11	8	8	38
730-830	12	12	9	5	38
745-845	10	10	8	6	34
800-900	9	9	6	6	30

730-745	0	1	2	0
745-800	0	1	3	1
800-815	0	4	1	1
815-830	1	1	2	6
830-845	0	1	0	2
845-900	1	2	1	4
900-915	3	1	2	2
915-930	0	2	0	2
930-945	0	0	3	0
945-1000	1	0	1	0
HOUR TOTALS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-800	2	3	5	3
715-815	2	6	6	4
730-830	1	7	8	8
745-845	1	7	6	10
800-900	2	8	4	13

11 EBTH
58
79
127
134
143
103
134
135
140
112
101
136
11 EBTH
398
483
507
514
515
512
521
488
489

TOTAL
1
4

3
5
6
10
3
8
8
4
3
2
TOTAL
13
18
24
24
27

WILTEC

Phone: (626) 56

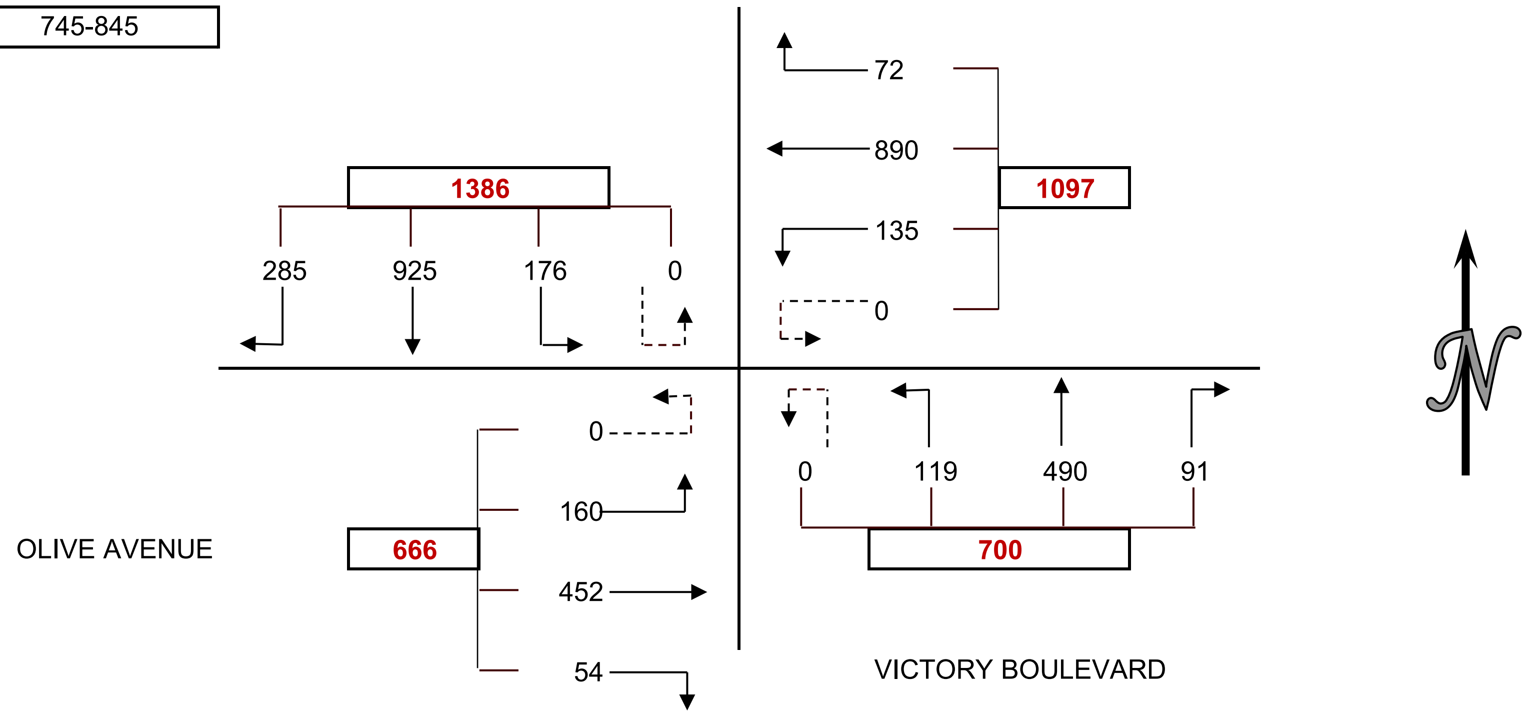
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DUDEK
PROJECT: BURBANK TRAFFIC COUNTS
DATE: WEDNESDAY MAY 8, 2019
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: N/S VICTORY BOULEVARD
E/W OLIVE AVENUE
CITY: BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-715	43	136	21	0	14	119	17	0	9	56	7	0	5
715-730	41	198	30	0	15	141	17	0	15	64	3	0	4
730-745	39	202	20	0	25	180	22	0	19	84	17	0	13
745-800	60	258	39	0	22	252	37	0	28	123	35	0	10
800-815	71	215	41	0	17	215	28	0	18	120	33	0	16
815-830	70	229	37	0	24	221	40	0	29	121	40	0	16
830-845	84	223	59	0	9	202	30	0	16	126	11	0	12
845-900	66	188	37	1	30	241	30	0	16	106	15	0	8
900-915	61	173	46	0	28	243	27	0	26	94	11	0	14
915-930	48	172	29	0	35	169	24	0	20	91	15	0	7
930-945	60	153	36	0	25	190	28	0	36	90	13	0	8
945-1000	51	141	31	0	40	191	26	0	30	136	7	0	12
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-800	183	794	110	0	76	692	93	0	71	327	62	0	32
715-815	211	873	130	0	79	788	104	0	80	391	88	0	43
730-830	240	904	137	0	88	868	127	0	94	448	125	0	55
745-845	285	925	176	0	72	890	135	0	91	490	119	0	54
800-900	291	855	174	1	80	879	128	0	79	473	99	0	52
815-915	281	813	179	1	91	907	127	0	87	447	77	0	50
830-930	259	756	171	1	102	855	111	0	78	417	52	0	41
845-945	235	686	148	1	118	843	109	0	98	381	54	0	37
900-1000	220	639	142	0	128	793	105	0	112	411	46	0	41

PEAK HOUR	745-845



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	2	2	3	0	7
715-730	5	5	2	1	13

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-715	0	1	0	0
715-730	1	0	0	0

730-745	4	4	3	9	20
745-800	8	8	5	1	22
800-815	8	8	8	8	32
815-830	6	6	5	6	23
830-845	3	3	0	4	10
845-900	1	1	3	7	12
900-915	3	3	7	2	15
915-930	2	2	2	7	13
930-945	4	4	3	2	13
945-1000	4	4	3	1	12
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	19	19	13	11	62
715-815	25	25	18	19	87
730-830	26	26	21	24	97
745-845	25	25	18	19	87
800-900	18	18	16	25	77

730-745	0	1	0	0
745-800	1	1	3	2
800-815	1	2	1	1
815-830	0	0	1	6
830-845	3	2	0	2
845-900	4	0	0	2
900-915	2	1	1	0
915-930	0	1	1	1
930-945	0	0	0	0
945-1000	1	1	0	0
HOUR TOTALS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-800	2	3	3	2
715-815	3	4	4	3
730-830	2	4	5	9
745-845	5	5	5	11
800-900	8	4	2	11

11 EBTH
47
77
91
118
104
109
121
153
106
131
124
103
11 EBTH
333
390
422
452
487
489
511
514
464

TOTAL
1
1

1
7
5
7
7
6
4
3
0
2
TOTAL
10
14
20
26
25

WILTEC

Phone: (626) 56

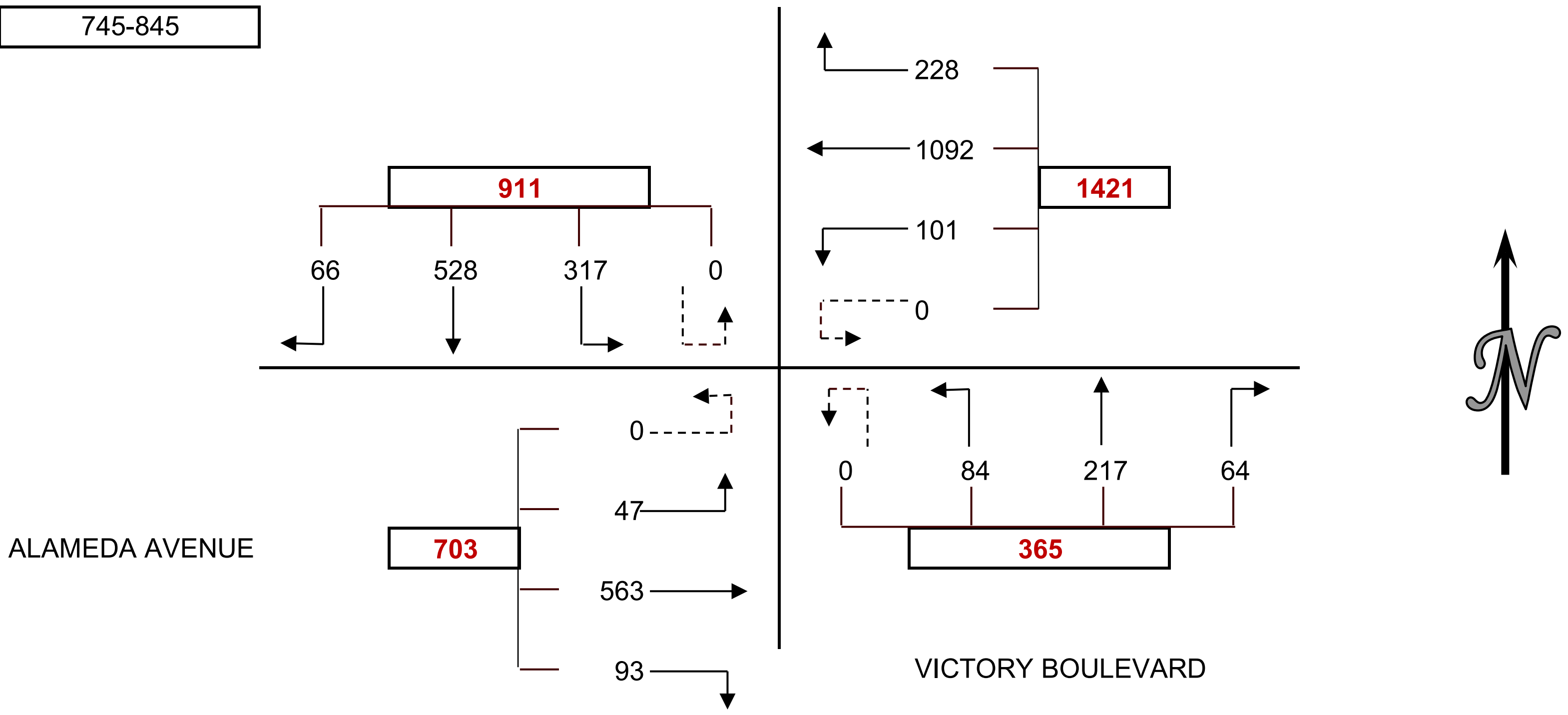
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		DUDEK
PROJECT:		BURBANK TRAFFIC COUNTS
DATE:		WEDNESDAY MAY 8, 2019
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	VICTORY BOULEVARD
	E/W	ALAMEDA AVENUE
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-715	8	87	41	0	31	140	22	0	12	19	16	0	39
715-730	4	85	59	0	35	180	28	0	8	25	10	0	16
730-745	0	88	50	0	66	218	37	0	8	37	18	0	33
745-800	10	125	74	0	65	276	20	0	13	49	18	0	25
800-815	22	116	78	0	57	271	21	0	18	63	28	0	21
815-830	16	106	80	0	67	283	27	0	13	55	18	0	32
830-845	18	181	85	0	39	262	33	0	20	50	20	0	15
845-900	9	104	42	0	72	328	22	0	17	56	18	0	24
900-915	15	100	63	0	53	299	31	0	12	44	20	0	16
915-930	10	78	66	0	56	280	28	0	18	51	24	0	24
930-945	11	78	82	0	55	197	31	0	20	60	16	0	18
945-1000	7	60	78	0	67	200	22	0	19	69	15	0	18
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-800	22	385	224	0	197	814	107	0	41	130	62	0	113
715-815	36	414	261	0	223	945	106	0	47	174	74	0	95
730-830	48	435	282	0	255	1048	105	0	52	204	82	0	111
745-845	66	528	317	0	228	1092	101	0	64	217	84	0	93
800-900	65	507	285	0	235	1144	103	0	68	224	84	0	92
815-915	58	491	270	0	231	1172	113	0	62	205	76	0	87
830-930	52	463	256	0	220	1169	114	0	67	201	82	0	79
845-945	45	360	253	0	236	1104	112	0	67	211	78	0	82
900-1000	43	316	289	0	231	976	112	0	69	224	75	0	76

PEAK HOUR	745-845



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	1	1	2	1	5
715-730	1	1	3	6	11

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-715	0	0	0	0
715-730	0	0	0	0

730-745	5	5	3	2	15
745-800	0	0	0	1	1
800-815	1	1	1	2	5
815-830	7	7	7	20	41
830-845	1	1	2	5	9
845-900	4	4	3	4	15
900-915	1	1	5	1	8
915-930	0	0	1	2	3
930-945	1	1	0	4	6
945-1000	1	1	2	0	4
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD					
700-800	7	7	8	10	32
715-815	7	7	7	11	32
730-830	13	13	11	25	62
745-845	9	9	10	28	56
800-900	13	13	13	31	70

730-745	1	1	0	1
745-800	2	0	0	0
800-815	0	2	0	0
815-830	0	0	1	1
830-845	0	0	1	1
845-900	0	0	0	1
900-915	0	0	0	0
915-930	0	1	0	0
930-945	1	0	0	0
945-1000	0	0	0	0
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
PERIOD				
700-800	3	1	0	1
715-815	3	3	0	1
730-830	3	3	1	2
745-845	2	2	2	2
800-900	0	2	2	3

34-1944

11 EBTH
86
103
121
155
159
127
122
135
112
130
118
160
11 EBTH
465
538
562
563
543
496
499
495
520

TOTAL
0
0

3
2
2
2
2
1
0
1
1
0
TOTAL
5
7
9
8
7

Prepared by National Data & Surveying Services

N San Fernando Blvd & Burbank Blvd

Peak Hour Turning Movement Count

ID: 18-05253-004
City: Burbank

Day: Tuesday
Date: 04/24/2018

	PEAK HOURS	COUNT PERIODS
AM	07:30 AM - 08:30 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:30 PM - 06:30 PM	04:30 PM - 07:30 PM

N San Fernando Blvd
SOUTHBOUND

	↲	↓	↳	↺	⇧
AM	631	200	49	0	655
NOON	0	0	0	0	0
PM	445	169	70	0	1285
	1	1	1	0	

Burbank Blvd
EASTBOUND

	AM	NOON	PM	
⇦	1016	0	1101	
↺	0	0	0	0
↰	487	0	834	2
→	462	0	648	2
↱	281	0	575	1

CONTROL

Signalized

	AM	NOON	PM
TEV	2684	0	3887
PHF	0.86		0.98

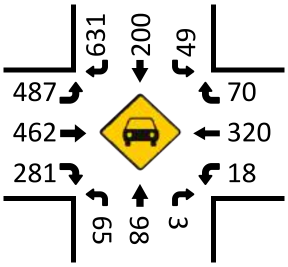
Burbank Blvd
WESTBOUND

		PM	NOON	AM
1	↱	86	0	70
2	←	411	0	320
1	↰	20	0	18
0	↺	0	0	0
	⇨	737	0	514

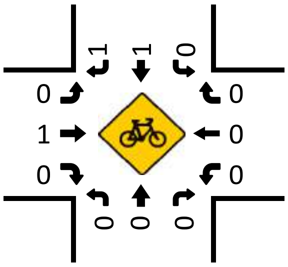
NORTHBOUND
N San Fernando Blvd

	0	2	1.5	0.5
⇩	↺	↰	↑	↱
PM: 764	0	245	365	19
NOON: 0	0	0	0	0
AM: 499	0	65	98	3

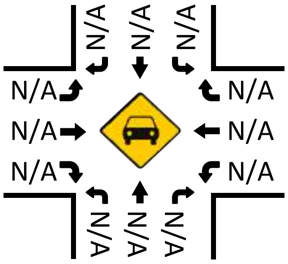
Total Vehicles (AM)



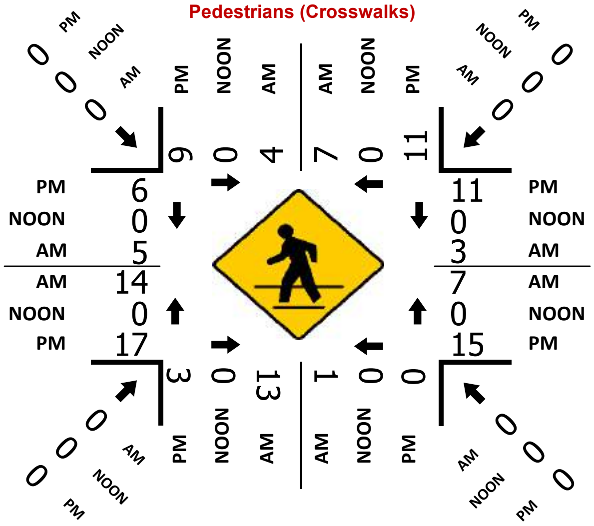
Bikes (AM)



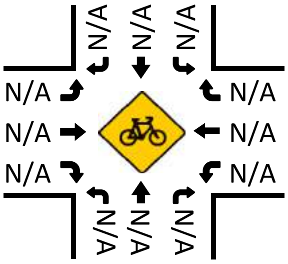
Total Vehicles (Noon)



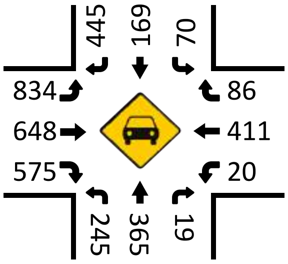
Pedestrians (Crosswalks)



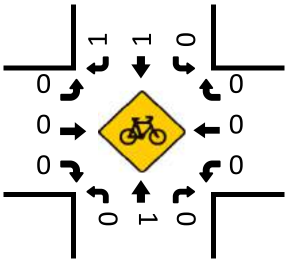
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



Prepared by National Data & Surveying Services

N 1st St & E Magnolia Blvd

Peak Hour Turning Movement Count

ID: 17-05689-015
City: Burbank

Day: Tuesday
Date: 10/17/2017

PEAK HOURS	
	07:45 AM - 08:45 AM
	NONE
	05:30 PM - 06:30 PM

	COUNT PERIODS
07:00 AM - 10:00 AM	
NONE	
04:30 PM - 07:30 PM	

N 1st St

SOUTHBOUND

AM	199	276	27	0	220	AM
NOON	0	0	0	0	0	NOON
PM	224	358	147	0	782	PM
	1	2	1	0		

E Magnolia Blvd

EASTBOUND

AM	NOON	PM	
976	0	1020	
0	0	0	0
91	0	287	1
478	0	765	2
149	0	315	0
AM	NOON	PM	

CONTROL

Signalized

TEV	2201	0	3573
	AM	NOON	PM
PHF	0.86		0.95

WESTBOUND

E Magnolia Blvd

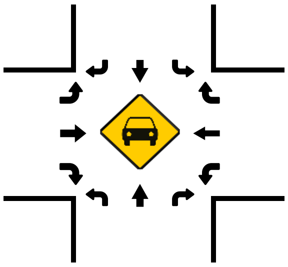
	PM	NOON	AM
1	90	0	18
2	546	0	634
1	39	0	39
0	23	0	1
	1059	0	541
	PM	NOON	AM

		0	1	2	1	
PM	712	0	250	405	124	PM
NOON	0	0	0	0	0	NOON
AM	464	0	143	111	35	AM

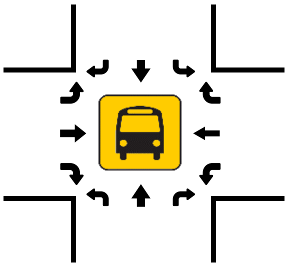
NORTHBOUND

N 1st St

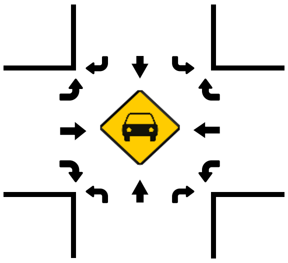
Total Vehicles (AM)



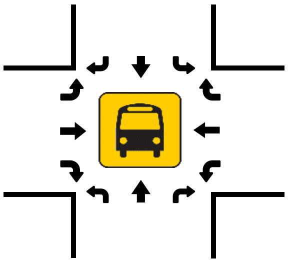
Total Vehicles (AM)



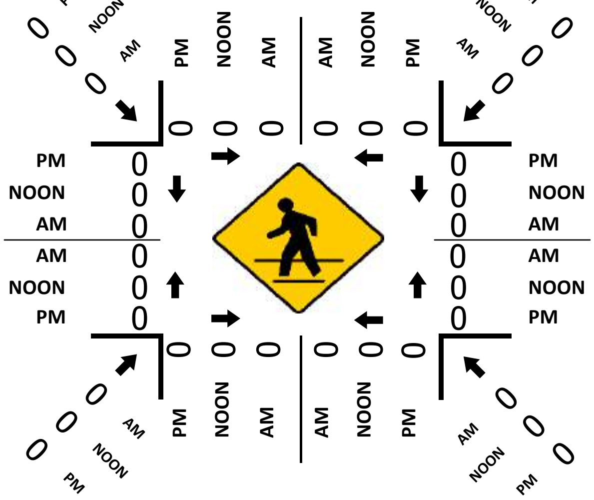
Total Vehicles (NOON)



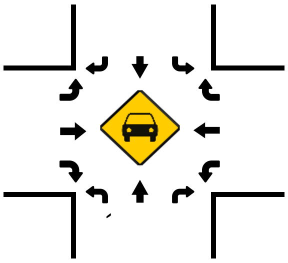
Total Vehicles (NOON)



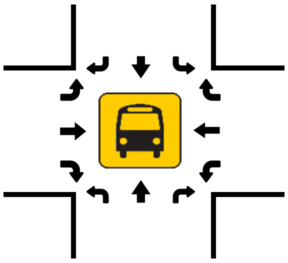
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



Prepared by National Data & Surveying Services

S First St & E Olive Ave/ N Bonnywood Pl

Peak Hour Turning Movement Count

ID: 18-05253-014
City: Burbank

Day: Tuesday
Date: 04/24/2018

PEAK HOURS		COUNT PERIODS
08:45 AM - 09:45 AM	AM	07:00 AM - 10:00 AM
NONE	NOON	NONE
05:00 PM - 06:00 PM	PM	04:30 PM - 07:30 PM

S First St
SOUTHBOUND

AM	93	175	50	0	359	AM
NOON	0	0	0	0	0	NOON
PM	125	355	62	0	810	PM
	↲	↓	↳	↺	⇧	
	1	2	1	0		

E Olive Ave/ N Bonnywood Pl
EASTBOUND

AM	NOON	PM		
1010	0	774	⇦	
0	0	0	↶	0
95	0	335	⬏	1
375	0	775	→	2
103	0	233	↴	0
AM	NOON	PM		

CONTROL

Signalized

	AM	NOON	PM
TEV	2153	0	3132
PHF	0.93		0.94

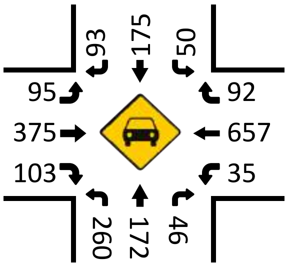
E Olive Ave/ N Bonnywood Pl
WESTBOUND

		PM	NOON	AM
1	↰	133	0	92
2	←	465	0	657
1	↲	54	0	35
0	↷	0	0	0
	⇨	906	0	471
		PM	NOON	AM

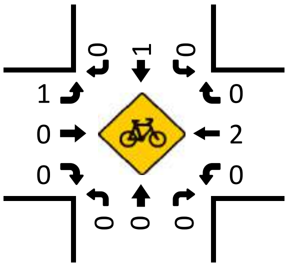
NORTHBOUND
S First St

		0	1	2	0	
	⇩	↶	↰	↑	↱	
PM	642	0	184	342	69	PM
NOON	0	0	0	0	0	NOON
AM	313	0	260	172	46	AM

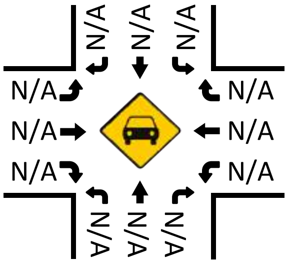
Total Vehicles (AM)



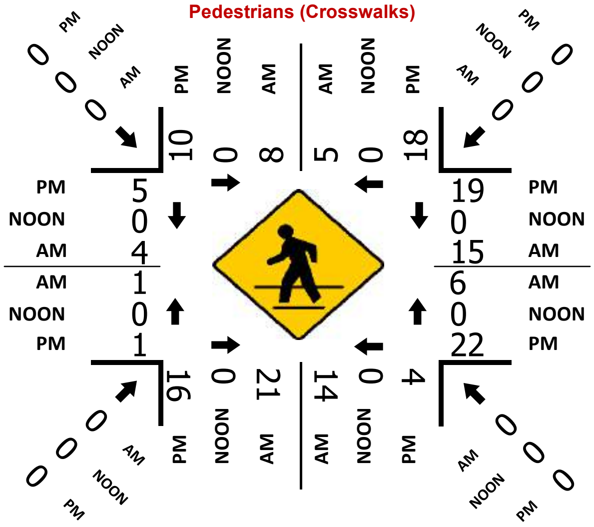
Bikes (AM)



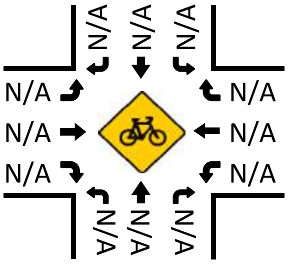
Total Vehicles (Noon)



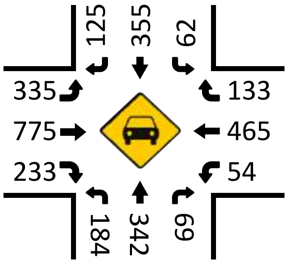
Pedestrians (Crosswalks)



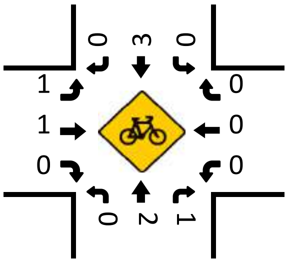
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



WILTEC

Phone: (626) 56

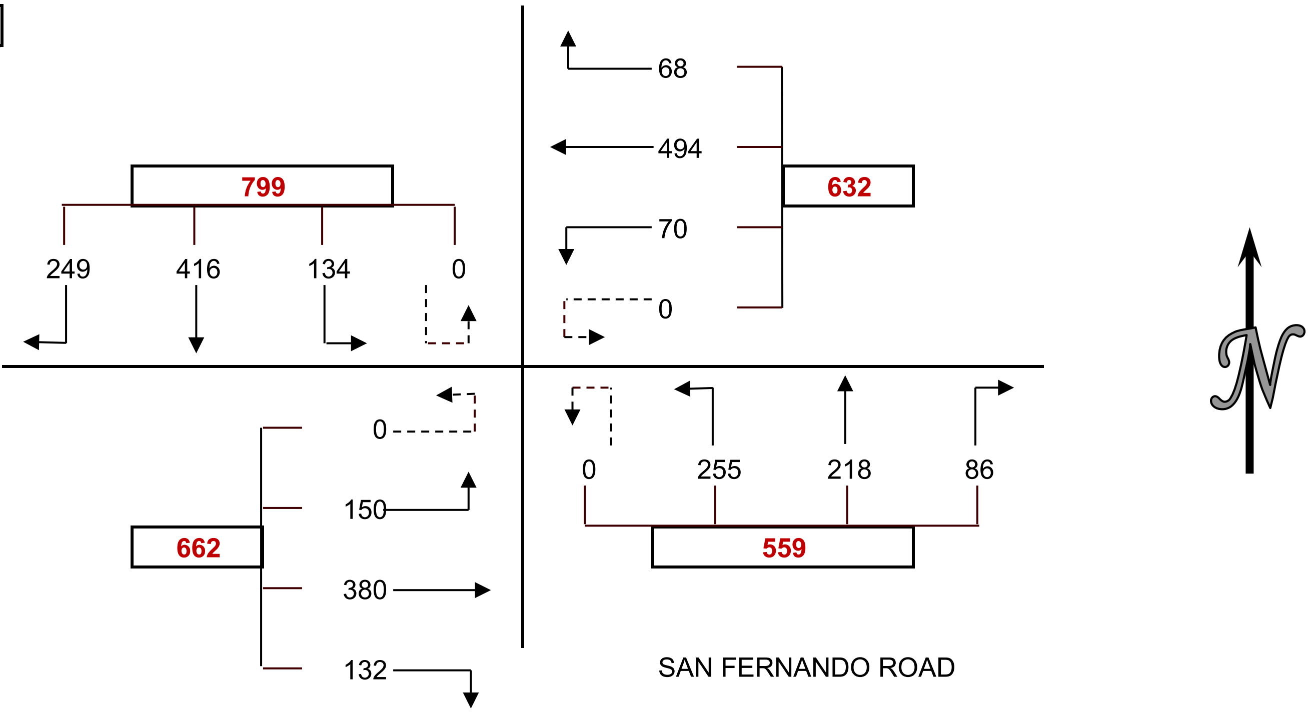
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT:		DUDEK
PROJECT:		BURBANK TRAFFIC COUNTS
DATE:		THURSDAY APRIL 25, 2019
PERIOD:		7:00 AM TO 10:00 AM
INTERSECTION:	N/S	SAN FERNANDO ROAD
	E/W	ALAMEDA AVENUE
CITY:		BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-715	42	93	27	0	12	24	11	0	24	31	48	0	22
715-730	31	103	30	0	4	241	17	0	16	21	39	0	22
730-745	50	106	30	0	9	117	15	0	17	62	42	0	42
745-800	47	134	32	0	11	100	6	0	23	51	62	0	31
800-815	66	105	32	0	16	120	23	0	16	62	43	0	36
815-830	54	115	41	0	15	129	14	0	25	63	62	0	37
830-845	67	107	28	0	25	118	17	0	29	42	82	0	30
845-900	62	89	33	0	12	127	16	0	16	51	68	0	29
900-915	58	111	37	0	6	103	10	0	27	55	76	0	30
915-930	51	83	20	0	18	136	12	0	17	46	64	0	37
930-945	58	73	23	0	9	126	9	0	18	62	70	0	34
945-1000	44	63	28	0	8	115	11	0	13	75	49	0	20
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-800	170	436	119	0	36	482	49	0	80	165	191	0	117
715-815	194	448	124	0	40	578	61	0	72	196	186	0	131
730-830	217	460	135	0	51	466	58	0	81	238	209	0	146
745-845	234	461	133	0	67	467	60	0	93	218	249	0	134
800-900	249	416	134	0	68	494	70	0	86	218	255	0	132
815-915	241	422	139	0	58	477	57	0	97	211	288	0	126
830-930	238	390	118	0	61	484	55	0	89	194	290	0	126
845-945	229	356	113	0	45	492	47	0	78	214	278	0	130
900-1000	211	330	108	0	41	480	42	0	75	238	259	0	121

PEAK HOUR	800-900



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	2	2	5	7	16
715-730	9	9	9	4	31

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-715	1	1	1	0
715-730	0	2	0	0

730-745	18	18	11	1	48
745-800	5	5	2	5	17
800-815	10	10	10	4	34
815-830	3	3	10	1	17
830-845	5	5	11	4	25
845-900	3	3	6	3	15
900-915	11	11	10	7	39
915-930	16	16	12	1	45
930-945	18	18	21	7	64
945-1000	7	7	7	3	24
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
PERIOD					
700-800	34	34	27	17	112
715-815	42	42	32	14	130
730-830	36	36	33	11	116
745-845	23	23	33	14	93
800-900	21	21	37	12	91

730-745	1	0	1	2
745-800	0	2	1	0
800-815	1	1	0	1
815-830	2	0	0	0
830-845	1	1	0	1
845-900	0	0	0	0
900-915	1	0	0	0
915-930	0	0	0	0
930-945	0	1	0	1
945-1000	1	1	0	2
HOUR TOTALS	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
PERIOD				
700-800	2	5	3	2
715-815	2	5	2	3
730-830	4	3	2	3
745-845	4	4	1	2
800-900	4	2	0	2

4-1944

11 EBTH
48
53
84
92
98
99
87
96
82
89
96
87
11 EBTH
277
327
373
376
380
364
354
363
354

TOTAL
3
2

4
3
3
2
3
0
1
0
2
4
TOTAL
12
12
12
11
8

WILTEC

Phone: (626) 56

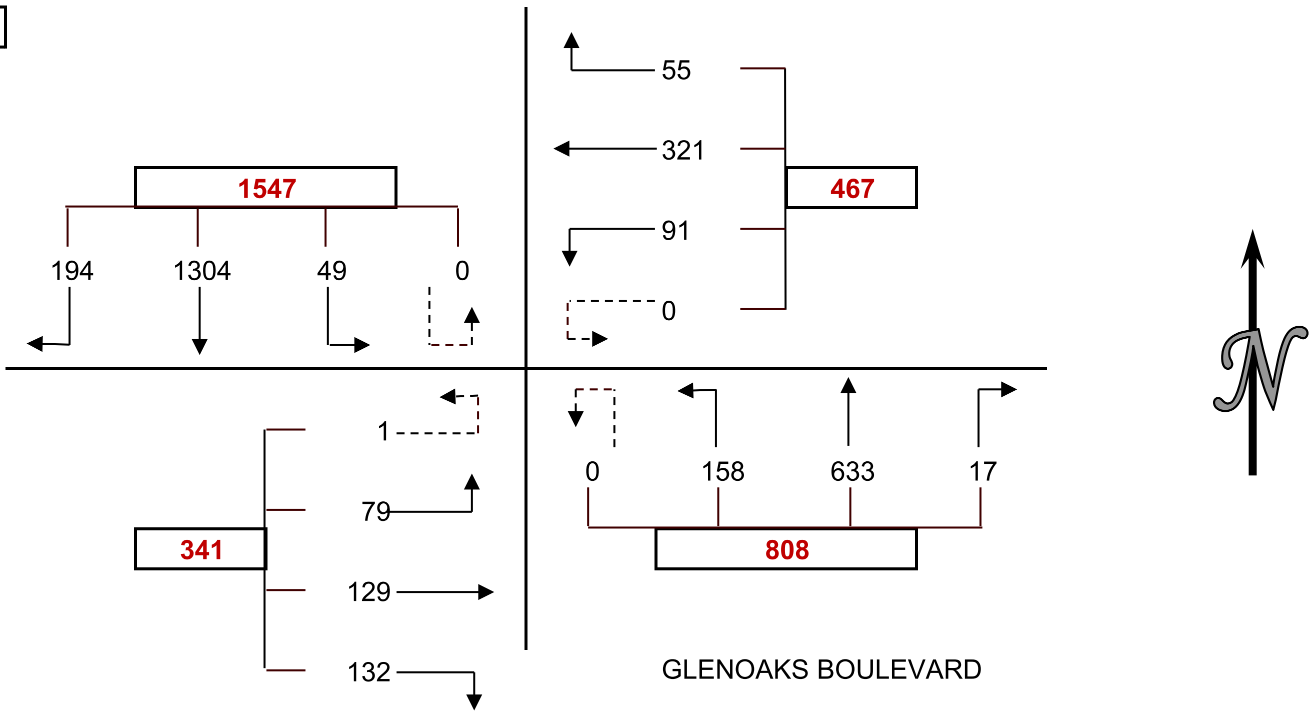
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DUDEK
PROJECT: BURBANK TRAFFIC COUNTS
DATE: THURSDAY APRIL 25, 2019
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: N/S GLENOAKS BOULEVARD
E/W MAGNOLIA BOULEVARD
CITY: BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-715	25	222	6	0	6	46	19	0	2	99	29	0	13
715-730	30	239	6	0	9	57	11	0	1	112	30	0	12
730-745	35	287	10	0	16	59	14	0	4	156	38	0	21
745-800	35	279	15	0	19	105	25	0	3	201	44	0	30
800-815	53	360	20	0	6	65	13	0	2	146	13	0	30
815-830	45	316	10	0	16	77	25	0	7	162	47	0	34
830-845	61	349	4	0	14	74	28	0	5	124	54	0	38
845-900	38	323	9	0	13	80	14	0	6	139	37	1	41
900-915	59	259	5	0	10	46	4	0	9	121	46	0	39
915-930	53	206	7	0	10	67	17	0	6	133	49	0	33
930-945	39	229	7	0	16	61	8	0	0	123	32	0	37
945-1000	39	217	6	0	8	50	8	0	15	163	45	0	33
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U	10
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT	EBRT
700-800	125	1027	37	0	50	267	69	0	10	568	141	0	76
715-815	153	1165	51	0	50	286	63	0	10	615	125	0	93
730-830	168	1242	55	0	57	306	77	0	16	665	142	0	115
745-845	194	1304	49	0	55	321	91	0	17	633	158	0	132
800-900	197	1348	43	0	49	296	80	0	20	571	151	1	143
815-915	203	1247	28	0	53	277	71	0	27	546	184	1	152
830-930	211	1137	25	0	47	267	63	0	26	517	186	1	151
845-945	189	1017	28	0	49	254	43	0	21	516	164	1	150
900-1000	190	911	25	0	44	224	37	0	30	540	172	0	142

PEAK HOUR	745-845



MAGNOLIA BOULEVARD

PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	5	5	0	0	10
715-730	0	0	6	2	8

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST
PERIOD	LEG	LEG	LEG	LEG
700-715	0	3	0	0
715-730	1	0	0	0

730-745	2	2	2	3	9
745-800	4	4	8	2	18
800-815	3	3	4	2	12
815-830	2	2	4	3	11
830-845	5	5	0	9	19
845-900	9	9	10	10	38
900-915	3	3	5	6	17
915-930	4	4	4	4	16
930-945	5	5	5	6	21
945-1000	10	10	4	4	28
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG	TOTAL
700-800	11	11	16	7	45
715-815	9	9	20	9	47
730-830	11	11	18	10	50
745-845	14	14	16	16	60
800-900	19	19	18	24	80

730-745	0	0	0	0
745-800	0	0	0	2
800-815	10	0	0	0
815-830	-10	0	0	1
830-845	0	30	0	2
845-900	3	-30	0	0
900-915	0	1	1	2
915-930	0	0	1	0
930-945	0	1	0	0
945-1000	0	0	0	0
HOUR TOTALS PERIOD	NORTH LEG	EAST LEG	SOUTH LEG	WEST LEG
700-800	1	3	0	2
715-815	11	0	0	2
730-830	0	0	0	3
745-845	0	30	0	5
800-900	3	0	0	3

11 EBTH
14
16
20
40
32
26
31
25
21
30
24
28
11 EBTH
90
108
118
129
114
103
107
100
103

TOTAL
3
1

0
2
10
-9
32
-27
4
1
1
0
TOTAL
6
13
3
35
6

Prepared by National Data & Surveying Services

N Glenoaks Blvd & E Olive Ave

Peak Hour Turning Movement Count

ID: 18-05253-027
City: Burbank

Day: Tuesday
Date: 04/24/2018

	PEAK HOURS	COUNT PERIODS
AM	08:00 AM - 09:00 AM	07:00 AM - 10:00 AM
NOON	NONE	NONE
PM	05:15 PM - 06:15 PM	04:30 PM - 07:30 PM

N Glenoaks Blvd
SOUTHBOUND

AM	178	884	46	0	627
NOON	0	0	0	0	0
PM	97	978	85	0	1291
	0	2	1	0	

E Olive Ave
EASTBOUND

AM	NOON	PM	
749	0	420	
0	0	0	0
93	0	186	1
125	0	348	2
82	0	162	0

WESTBOUND
E Olive Ave

	PM	NOON	AM
0	64	0	34
2	210	0	425
1	65	0	102
0	0	0	0
	509	0	201

NORTHBOUND
N Glenoaks Blvd

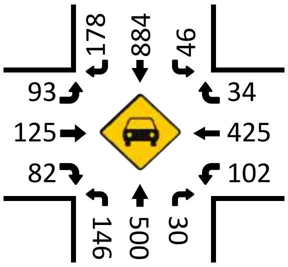
		0	1	2	0
PM	1206	1	113	1041	76
NOON	0	0	0	0	0
AM	1068	0	146	500	30

CONTROL

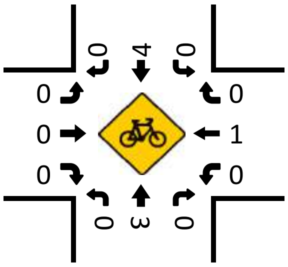
Signalized

	AM	NOON	PM
TEV	2645	0	3426
PHF	0.96		0.97

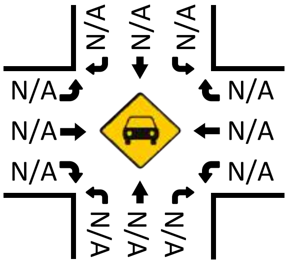
Total Vehicles (AM)



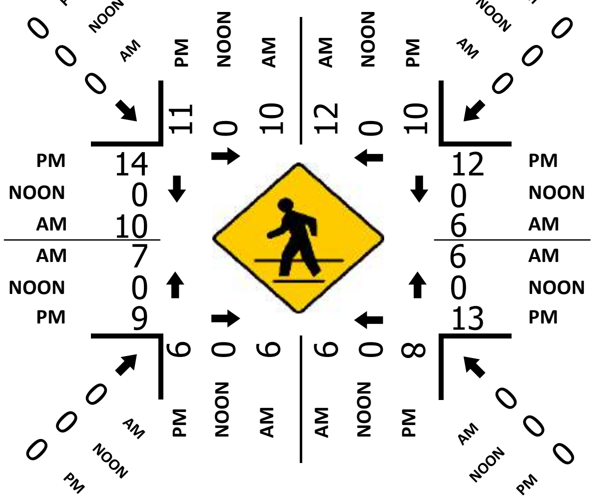
Bikes (AM)



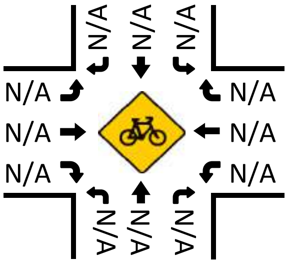
Total Vehicles (Noon)



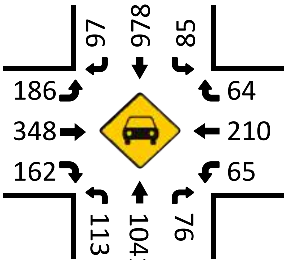
Pedestrians (Crosswalks)



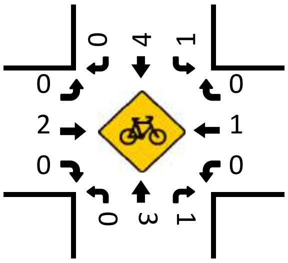
Bikes (NOON)



Total Vehicles (PM)



Bikes (PM)



WILTEC

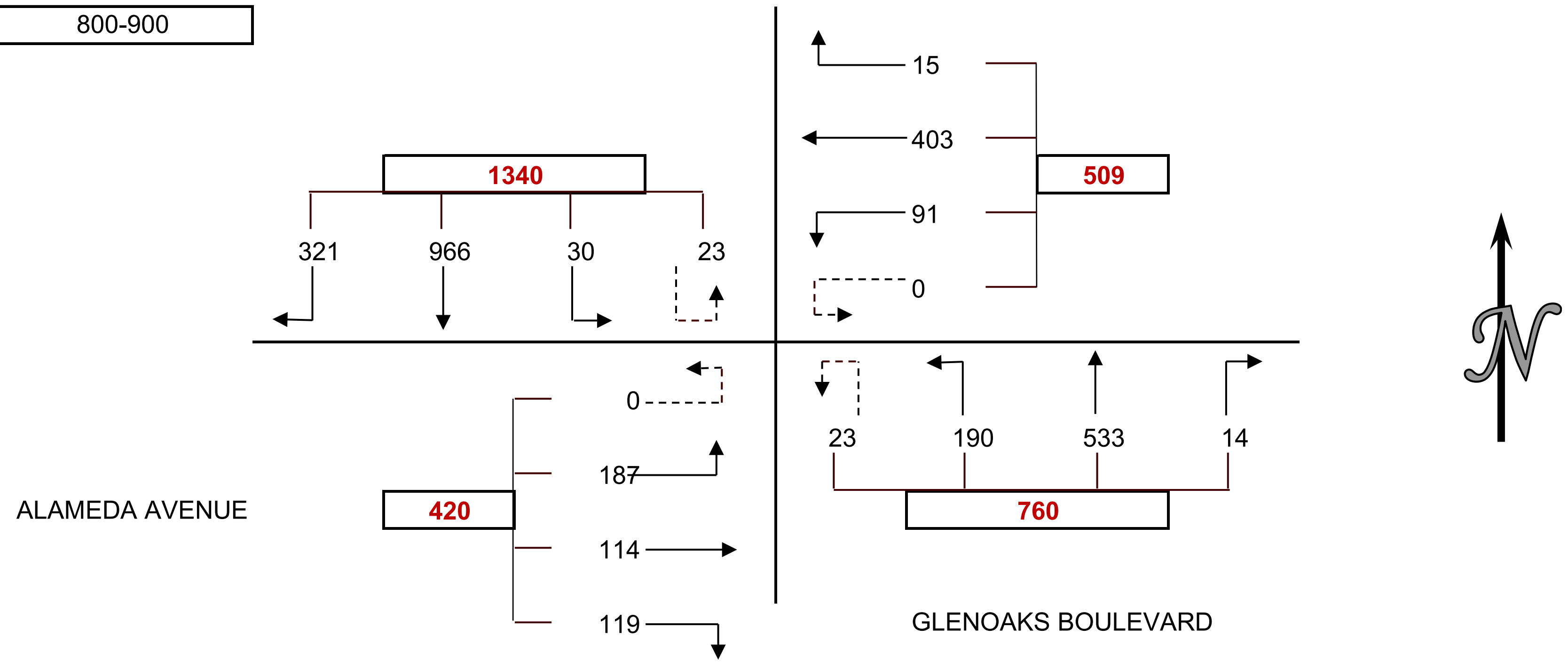
INTERSECTION CAR/PED/BIKE TRAFFIC COUNT RESULTS SUMMARY

CLIENT: DUDEK
PROJECT: BURBANK TRAFFIC COUNTS
DATE: TUESDAY APRIL 30, 2019
PERIOD: 7:00 AM TO 10:00 AM
INTERSECTION: N/S GLENOAKS BOULEVARD
E/W ALAMEDA AVENUE
CITY: BURBANK

VEHICLE COUNTS

15 MIN COUNTS	1	2	3	3U	4	5	6	6U	7	8	9	9U
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT
700-715	43	150	4	3	4	7	11	0	2	62	30	3
715-730	48	187	3	3	5	168	9	0	0	88	29	0
730-745	65	209	8	6	4	90	20	0	5	104	40	4
745-800	59	209	10	4	3	103	24	0	6	134	51	6
800-815	74	216	10	5	2	117	24	0	5	124	33	7
815-830	69	225	7	5	6	94	22	0	3	164	61	5
830-845	97	267	6	7	4	98	27	0	3	117	54	6
845-900	81	258	7	6	3	94	18	0	3	128	42	5
900-915	82	180	3	7	7	74	14	0	2	144	44	5
915-930	68	164	12	4	5	69	13	0	5	120	29	7
930-945	63	144	6	5	6	65	11	0	5	166	44	3
945-1000	53	157	10	3	5	65	12	0	4	137	51	3
HOUR TOTALS	1	2	3	3U	4	5	6	6U	7	8	9	9U
PERIOD	SBRT	SBTH	SBLT	SBUT	WBRT	WBTH	WBLT	WBUT	NBRT	NBTH	NBLT	NBUT
700-800	215	755	25	16	16	368	64	0	13	388	150	13
715-815	246	821	31	18	14	478	77	0	16	450	153	17
730-830	267	859	35	20	15	404	90	0	19	526	185	22
745-845	299	917	33	21	15	412	97	0	17	539	199	24
800-900	321	966	30	23	15	403	91	0	14	533	190	23
815-915	329	930	23	25	20	360	81	0	11	553	201	21
830-930	328	869	28	24	19	335	72	0	13	509	169	23
845-945	294	746	28	22	21	302	56	0	15	558	159	20
900-1000	266	645	31	19	23	273	50	0	16	567	168	18

PEAK HOUR	800-900



PEDESTRIAN COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-715	5	5	2	0	12
715-730	1	1	2	1	5
730-745	1	1	1	1	4

BICYCLE COUNTS

15 MIN COUNTS	NORTH	EAST	SOUTH
PERIOD	LEG	LEG	LEG
700-715	0	0	0
715-730	0	1	0
730-745	0	0	0

745-800	3	3	1	1	8
800-815	2	2	2	1	7
815-830	2	2	0	0	4
830-845	2	2	0	3	7
845-900	4	4	1	1	10
900-915	6	6	4	1	17
915-930	11	11	2	1	25
930-945	1	1	3	5	10
945-1000	4	4	4	4	16
HOUR TOTALS	NORTH	EAST	SOUTH	WEST	TOTAL
PERIOD	LEG	LEG	LEG	LEG	
700-800	10	10	6	3	29
715-815	7	7	6	4	24
730-830	8	8	4	3	23
745-845	9	9	3	5	26
800-900	10	10	3	5	28

745-800	0	0	1
800-815	0	0	0
815-830	0	0	0
830-845	0	0	0
845-900	0	1	0
900-915	0	0	0
915-930	0	0	1
930-945	0	2	0
945-1000	0	1	0
HOUR TOTALS	NORTH	EAST	SOUTH
PERIOD	LEG	LEG	LEG
700-800	0	1	1
715-815	0	1	1
730-830	0	0	1
745-845	0	0	1
800-900	0	1	0

Phone: (626) 564-194

10 EBRT	11 EBTH
14	14
19	21
27	25
21	34
32	29
31	39
32	26
24	20
27	26
25	21
31	17
21	25

10 EBRT	11 EBTH
81	94
99	109
111	127
116	128
119	114
114	111
108	93
107	84
104	89

WEST LEG	TOTAL
0	0
0	1
0	0

0	1
0	0
0	0
0	0
0	1
0	0
0	1
0	2
1	2
WEST LEG	TOTAL
0	2
0	2
0	1
0	1
0	1

APPENDIX:

Signal Timing Sheets

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Coordination Timing
BiTrans 233RV2.x

197 Hollywood Way & Winona Ave			
Prepared by:	RICHARD LOCKYER	Date	05/05/20
Checked by:	JONATHAN YEE	Date	

	PLAN NUMBER	1	2	3	4	5	6	7	8	9
0	CYCLE	0	0	100	110	120	130	140	0	0
1	FORCE 1	0	0	55	60	65	65	70	0	0
2	FORCE 2	0	0	0	0	0	0	0	0	0
3	FORCE 3	0	0	0	0	0	0	0	0	0
4	FORCE 4	0	0	40	45	45	45	50	0	0
5	FORCE 5	0	0	55	60	65	65	70	0	0
6	FORCE 6	0	0	0	0	0	0	0	0	0
7	FORCE 7	0	0	0	0	0	0	0	0	0
8	FORCE 8	0	0	40	45	45	45	50	0	0
9	RING OFFSET	0	0	0	0	0	0	0	0	0
A	OFFSET 1	0	0	40	40	70	80	115	0	0
B	OFFSET 2	0	0	40	40	70	80	90	0	0
C	OFFSET 3	0	0	40	40	70	80	53	0	0
D	PERM 1 END	0	0	0	0	0	0	0	0	0
E	HOLD RELEASE	0	0	255	255	255	255	255	0	0
F	ZONE OFFSET	0	0	0	0	0	0	0	0	0

< C + 0 + C = 1 >

	COLUMN E	1	2	3	4	5	6	7	8		COLUMN F	1	2	3	4	5	6	7	8
0										0	LAG FREE	_	2	_	4	_	6	_	8
1	SYNC Plan 1	_	2	_	_	_	6	_	_	1	LAG PLAN 1	_	2	_	4	_	6	_	8
2	SYNC Plan 2	_	2	_	_	_	6	_	_	2	LAG PLAN 2	_	2	_	4	_	6	_	8
3	SYNC Plan 3	_	2	_	_	_	6	_	_	3	LAG PLAN 3	_	2	_	4	_	6	_	8
4	SYNC Plan 4	_	2	_	_	_	6	_	_	4	LAG PLAN 4	_	2	_	4	_	6	_	8
5	SYNC Plan 5	_	2	_	_	_	6	_	_	5	LAG PLAN 5	_	2	_	4	_	6	_	8
6	SYNC Plan 6	_	2	_	_	_	6	_	_	6	LAG PLAN 6	_	2	_	4	_	6	_	8
7	SYNC Plan 7	_	2	_	_	_	6	_	_	7	LAG PLAN 7	_	2	_	4	_	6	_	8
8	SYNC Plan 8	_	2	_	_	_	6	_	_	8	LAG PLAN 8	_	2	_	4	_	6	_	8
9	SYNC Plan 9	_	2	_	_	_	6	_	_	9	LAG PLAN 9	_	2	_	4	_	6	_	8
A	NEMA SYNC	_	_	_	_	_	_	_	_	A	EXT. LAG	_	_	_	_	_	_	_	_
B	NEMA HOLD	_	_	_	_	_	_	_	_	B	LAG HOLD	_	_	_	_	_	_	_	_
C										C									
D										D									
E	COORD EXTRA	_	2	_	_	_	_	_	_	E									
F										F									

COORDINATION EXTRA
1 = Programmed Walk Time
2 = FDW Begins at Sync Phase
Force Off minus FDW

< C + 0 + C = 1 >

COLUMN 2	Coord Min.
1	15
2	26
3	0
4	35
5	15
6	26
7	0
8	35

< C + 0 + C = 5 >

TRANSITION TYPE:
< C/5 + 1 + 9 > = 1.3

0.X = SHORTWAY
1.X = DWELL
X.1 THRU .X4 = NUMBER OF CYCLES WHEN LENGTHENING

LAG HOLD PHASES:
< C/5 + 1 + A > = ______

IEN STATUS: ON =/= 0
IEN Status < C/5 + 1 + B > = 1

LOCAL ALARM DISABLE
< C/5 + F + 0 > = ______

7 - Wire Master
Synch Time < C/5 + 1 + C > = 0.0

ROW	Plan # -->	1	2	3	4	5	6	7	8	9	ROW
0	PED ADJUST	0	0	0	0	0	0	0	0	0	0
1	PERM 2 START	0	0	0	0	0	0	0	0	0	1
2	PERM 2 END	0	0	0	0	0	0	0	0	0	2
3	PERM 3 START	0	0	0	0	0	0	0	0	0	3
4	PERM 3 END	0	0	0	0	0	0	0	0	0	4
5	RSRVC TIME	0	0	0	0	0	0	0	0	0	5
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
6	RSRVC PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7											7
8	PRETIMED PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	8
9	MAX RECALL	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	PERM 1 VEH	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	A
B	PERM 1 PED	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	B
C	PERM 2 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	C
D	PERM 2 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	D
E	PERM 3 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	E
F	PERM 3 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	F

COORDINATION PAGE 2 < C + 0 + C = 2 >

CURRENT DATE/TIME
(HR-MIN-DOW) = <8/0 + 0>
(Day-YR-MO) = <8/0 + 1>
(MN-S-1/10SEC) = <8/0 + F>

Daylight Savings Time

Begin Month	<C/5+2+A>	0
Begin Week	<C/5+2+B>	0
End Month	<C/5+2+C>	0
End Week	<C/5+2+D>	0

Advance Warning Beacon - Sign 1

Time Before Yellow	<F/1+C+E>	0.0
Phase Number	<F/1+C+F>	0

Advance Warning Beacon - Sign 2

Time Before Yellow	<F/1+D+E>	0.0
Phase Number	<F/1+D+F>	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Coordination Timing
BiTrans 233RV2.x

192 Hollywood Way & Thornton Ave			
Prepared by:	RICHARD LOCKYER	Date	05/04/20
Checked by:	JONATHAN YEE	Date	

	PLAN NUMBER									
		1	2	3	4	5	6	7	8	9
0	CYCLE	0	0	100	110	120	130	140	0	0
1	FORCE 1	0	0	68	75	85	85	91	0	0
2	FORCE 2	0	0	0	0	0	0	0	0	0
3	FORCE 3	0	0	20	20	28	28	30	0	0
4	FORCE 4	0	0	52	56	64	64	66	0	0
5	FORCE 5	0	0	0	0	0	0	0	0	0
6	FORCE 6	0	0	0	0	0	0	0	0	0
7	FORCE 7	0	0	17	20	22	22	20	0	0
8	FORCE 8	0	0	52	56	64	64	66	0	0
9	RING OFFSET	0	0	0	0	0	0	0	0	0
A	OFFSET 1	0	0	5	105	55	60	92	0	0
B	OFFSET 2	0	0	5	105	55	60	65	0	0
C	OFFSET 3	0	0	5	105	55	60	40	0	0
D	PERM 1 END	0	0	0	0	0	0	0	0	0
E	HOLD RELEASE	0	0	255	255	255	255	255	0	0
F	ZONE OFFSET	0	0	0	0	0	0	0	0	0

< C + 0 + C = 1 >

	COLUMN E									COLUMN F								
		1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8
0										0	LAG FREE	_	2	_	4	_	6	_	8
1	SYNC Plan 1	_	2	_	_	_	6	_	_	1	LAG PLAN 1	_	2	_	4	_	6	_	8
2	SYNC Plan 2	_	2	_	_	_	6	_	_	2	LAG PLAN 2	_	2	_	4	_	6	_	8
3	SYNC Plan 3	_	2	_	_	_	6	_	_	3	LAG PLAN 3	_	2	_	4	_	6	_	8
4	SYNC Plan 4	_	2	_	_	_	6	_	_	4	LAG PLAN 4	_	2	_	4	_	6	_	8
5	SYNC Plan 5	_	2	_	_	_	6	_	_	5	LAG PLAN 5	_	2	_	4	_	6	_	8
6	SYNC Plan 6	_	2	_	_	_	6	_	_	6	LAG PLAN 6	_	2	_	4	_	6	_	8
7	SYNC Plan 7	_	2	_	_	_	6	_	_	7	LAG PLAN 7	_	2	_	4	_	6	_	8
8	SYNC Plan 8	_	2	_	_	_	6	_	_	8	LAG PLAN 8	_	2	_	4	_	6	_	8
9	SYNC Plan 9	_	2	_	_	_	6	_	_	9	LAG PLAN 9	_	2	_	4	_	6	_	8
A	NEMA SYNC	_	_	_	_	_	_	_	_	A	EXT. LAG	_	_	_	_	_	_	_	_
B	NEMA HOLD	_	_	_	_	_	_	_	_	B	LAG HOLD	_	_	_	_	_	_	_	_
C										C									
D										D									
E	COORD EXTRA	_	2	_	_	_	_	_	_	E									
F										F									

COORDINATION EXTRA

1 = Programmed Walk Time

2 = FDW Begins at Sync Phase

Force Off minus FDW

< C + 0 + C = 1 >

COLUMN 2	
Coord Min.	
1	15
2	30
3	16
4	31
5	0
6	23
7	16
8	31

< C + 0 + C = 5 >

TRANSITION TYPE:
< C/5 + 1 + 9 > = 1.2

0.X = SHORTWAY
1.X = DWELL
X.1 THRU .X4 = NUMBER OF CYCLES WHEN LENGTHENING

LAG HOLD PHASES:
< C/5 + 1 + A > =

IEN STATUS: ON =/= 0
IEN Status < C/5 + 1 + B > = 1

LOCAL ALARM DISABLE
< C/5 + F + 0 > =

7 - Wire Master
Synch Time < C/5 + 1 + C > = 0.0

ROW	Plan # -->	1	2	3	4	5	6	7	8	9	ROW
0	PED ADJUST	0	0	0	0	0	0	0	0	0	0
1	PERM 2 START	0	0	0	0	0	0	0	0	0	1
2	PERM 2 END	0	0	0	0	0	0	0	0	0	2
3	PERM 3 START	0	0	0	0	0	0	0	0	0	3
4	PERM 3 END	0	0	0	0	0	0	0	0	0	4
5	RSRVC TIME	0	0	0	0	0	0	0	0	0	5
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
6	RSRVC PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7											7
8	PRETIMED PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	8
9	MAX RECALL	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	PERM 1 VEH	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	A
B	PERM 1 PED	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	B
C	PERM 2 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	C
D	PERM 2 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	D
E	PERM 3 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	E
F	PERM 3 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	F

COORDINATION PAGE 2 < C + 0 + C = 2 >

CURRENT DATE/TIME
(HR-MIN-DOW) = <8/0 + 0>
(Day-YR-MO) = <8/0 + 1>
(MN-S-1/10SEC) = <8/0 + F>

Daylight Savings Time

Begin Month	<C/5+2+A>	0
Begin Week	<C/5+2+B>	0
End Month	<C/5+2+C>	0
End Week	<C/5+2+D>	0

Advance Warning Beacon - Sign 1

Time Before Yellow	<F/1+C+E>	0.0
Phase Number	<F/1+C+F>	0

Advance Warning Beacon - Sign 2

Time Before Yellow	<F/1+D+E>	0.0
Phase Number	<F/1+D+F>	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Coordination Timing
BiTrans 233RV2.x

196 Hollywood Way & Victory Blvd

Prepared by:	RICHARD LOCKYER	Date	05/04/20
Checked by:	JONATHAN YEE	Date	

		PLAN NUMBER								
		1	2	3	4	5	6	7	8	9
0	CYCLE	0	0	100	110	120	130	140	0	0
1	FORCE 1	0	0	15	17	20	22	21	0	0
2	FORCE 2	0	0	50	55	60	65	65	0	0
3	FORCE 3	0	0	65	72	80	87	83	0	0
4	FORCE 4	0	0	0	0	0	0	0	0	0
5	FORCE 5	0	0	15	17	20	22	21	0	0
6	FORCE 6	0	0	50	55	60	65	65	0	0
7	FORCE 7	0	0	65	72	80	87	90	0	0
8	FORCE 8	0	0	0	0	0	0	0	0	0
9	RING OFFSET	0	0	0	0	0	0	0	0	0
A	OFFSET 1	0	0	49	0	115	120	5	0	0
B	OFFSET 2	0	0	49	0	115	120	125	0	0
C	OFFSET 3	0	0	49	0	115	120	105	0	0
D	PERM 1 END	0	0	0	0	0	0	0	0	0
E	HOLD RELEASE	0	0	255	255	255	255	255	0	0
F	ZONE OFFSET	0	0	0	0	0	0	0	0	0

< C + 0 + C = 1 >

	COLUMN E										COLUMN F							
		1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8
0										0	LAG FREE	_	2	_	4	_	6	_	8
1	SYNC Plan 1	_	_	_	4	_	_	_	8	1	LAG PLAN 1	_	2	_	4	_	6	_	8
2	SYNC Plan 2	_	_	_	4	_	_	_	8	2	LAG PLAN 2	_	2	_	4	_	6	_	8
3	SYNC Plan 3	_	_	_	4	_	_	_	8	3	LAG PLAN 3	_	2	_	4	_	6	_	8
4	SYNC Plan 4	_	_	_	4	_	_	_	8	4	LAG PLAN 4	_	2	_	4	_	6	_	8
5	SYNC Plan 5	_	_	_	4	_	_	_	8	5	LAG PLAN 5	_	2	_	4	_	6	_	8
6	SYNC Plan 6	_	_	_	4	_	_	_	8	6	LAG PLAN 6	_	2	_	4	_	6	_	8
7	SYNC Plan 7	_	_	_	4	_	_	_	8	7	LAG PLAN 7	_	2	_	4	_	6	_	8
8	SYNC Plan 8	_	_	_	4	_	_	_	8	8	LAG PLAN 8	_	2	_	4	_	6	_	8
9	SYNC Plan 9	_	_	_	4	_	_	_	8	9	LAG PLAN 9	_	2	_	4	_	6	_	8
A	NEMA SYNC	_	_	_	_	_	_	_	_	A	EXT. LAG	_	_	_	_	_	_	_	_
B	NEMA HOLD	_	_	_	_	_	_	_	_	B	LAG HOLD	_	_	_	_	_	_	_	_
C										C								
D										D								
E	COORD EXTRA	_	2	_	_	_	_	_	_	E								
F										F								

COORDINATION EXTRA

1 = Programmed Walk Time

2 = FDW Begins at Sync Phase

Force Off minus FDW

< C + 0 + C = 1 >

COLUMN 2	
Coord Min.	
1	15
2	27
3	15
4	31
5	15
6	28
7	15
8	29

< C + 0 + C = 5 >

TRANSITION TYPE:
< C/5 + 1 + 9 > = 1.3

0.X = SHORTWAY
1.X = DWELL
X.1 THRU .X4 = NUMBER OF CYCLES WHEN LENGTHENING

LAG HOLD PHASES:
< C/5 + 1 + A > = ________

IEN STATUS: ON =/= 0
IEN Status < C/5 + 1 + B > = 1

LOCAL ALARM DISABLE
< C/5 + F + 0 > = ________

7 - Wire Master
Synch Time < C/5 + 1 + C > = 0.0

ROW	Plan # -->	1	2	3	4	5	6	7	8	9	ROW
0	PED ADJUST	0	0	0	0	0	0	0	0	0	0
1	PERM 2 START	0	0	0	0	0	0	0	0	0	1
2	PERM 2 END	0	0	0	0	0	0	0	0	0	2
3	PERM 3 START	0	0	0	0	0	0	0	0	0	3
4	PERM 3 END	0	0	0	0	0	0	0	0	0	4
5	RSRVC TIME	0	0	0	0	0	0	0	0	0	5
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
6	RSRVC PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7											7
8	PRETIMED PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	8
9	MAX RECALL	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	PERM 1 VEH	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	A
B	PERM 1 PED	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	B
C	PERM 2 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	C
D	PERM 2 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	D
E	PERM 3 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	E
F	PERM 3 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	F

COORDINATION PAGE 2 < C + 0 + C = 2 >

CURRENT DATE/TIME

(HR-MIN-DOW) = <8/0 + 0>
(Day-YR-MO) = <8/0 + 1>
(MN-S-1/10SEC) = <8/0 + F>

Daylight Savings Time

Begin Month	<C/5+2+A>	0
Begin Week	<C/5+2+B>	0
End Month	<C/5+2+C>	0
End Week	<C/5+2+D>	0

Advance Warning Beacon - Sign 1

Time Before Yellow	<F/1+C+E>	0.0
Phase Number	<F/1+C+F>	0

Advance Warning Beacon - Sign 2

Time Before Yellow	<F/1+D+E>	0.0
Phase Number	<F/1+D+F>	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Coordination Timing
BiTrans 233RV2.x

143 Burbank Blvd & Hollywood Way			
Prepared by:	RICHARD LOCKYER	Date	04/20/20
Checked by:	JONATHAN YEE	Date	

		PLAN NUMBER								
		1	2	3	4	5	6	7	8	9
0	CYCLE	0	0	100	110	120	130	140	0	0
1	FORCE 1	0	0	17	17	18	22	21	0	0
2	FORCE 2	0	0	49	55	55	65	60	0	0
3	FORCE 3	0	0	66	72	77	87	85	0	0
4	FORCE 4	0	0	0	0	0	0	0	0	0
5	FORCE 5	0	0	17	17	18	22	21	0	0
6	FORCE 6	0	0	49	55	55	65	60	0	0
7	FORCE 7	0	0	66	72	77	87	85	0	0
8	FORCE 8	0	0	0	0	0	0	0	0	0
9	RING OFFSET	0	0	0	0	0	0	0	0	0
A	OFFSET 1	0	0	84	57	60	55	80	0	0
B	OFFSET 2	0	0	84	57	60	55	55	0	0
C	OFFSET 3	0	0	84	57	60	55	35	0	0
D	PERM 1 END	0	0	0	0	0	0	0	0	0
E	HOLD RELEASE	0	0	255	255	255	255	255	0	0
F	ZONE OFFSET	0	0	0	0	0	0	0	0	0

< C + 0 + C = 1 >

		COLUMN E										COLUMN F							
		1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8
0										0	LAG FREE	_	2	_	4	_	6	_	8
1	SYNC Plan 1	_	_	_	4	_	_	_	8	1	LAG PLAN 1	_	2	_	4	_	6	_	8
2	SYNC Plan 2	_	_	_	4	_	_	_	8	2	LAG PLAN 2	_	2	_	4	_	6	_	8
3	SYNC Plan 3	_	_	_	4	_	_	_	8	3	LAG PLAN 3	_	2	_	4	_	6	_	8
4	SYNC Plan 4	_	_	_	4	_	_	_	8	4	LAG PLAN 4	_	2	_	4	_	6	_	8
5	SYNC Plan 5	_	_	_	4	_	_	_	8	5	LAG PLAN 5	_	2	_	4	_	6	_	8
6	SYNC Plan 6	_	_	_	4	_	_	_	8	6	LAG PLAN 6	_	2	_	4	_	6	_	8
7	SYNC Plan 7	_	_	_	4	_	_	_	8	7	LAG PLAN 7	_	2	_	4	_	6	_	8
8	SYNC Plan 8	_	_	_	4	_	_	_	8	8	LAG PLAN 8	_	2	_	4	_	6	_	8
9	SYNC Plan 9	_	_	_	4	_	_	_	8	9	LAG PLAN 9	_	2	_	4	_	6	_	8
A	NEMA SYNC	_	_	_	_	_	_	_	_	A	EXT. LAG	_	_	_	_	_	_	_	_
B	NEMA HOLD	_	_	_	_	_	_	_	_	B	LAG HOLD	_	_	_	_	_	_	_	_
C										C									
D										D									
E	COORD EXTRA	_	2	_	_	_	_	_	_	E									
F										F									

< C + 0 + C = 1 >

COORDINATION EXTRA

1 = Programmed Walk Time

2 = FDW Begins at Sync Phase

Force Off minus FDW

COLUMN 2	
Coord Min.	
1	17
2	29
3	16
4	32
5	17
6	28
7	15
8	27

< C + 0 + C = 5 >

TRANSITION TYPE:

< C/5 + 1 + 9 > = 0.3

0.X = SHORTWAY
1.X = DWELL
X.1 THRU .X4 = NUMBER OF
CYCLES WHEN LENGTHENING

LAG HOLD PHASES:

< C/5 + 1 + A > = ________

IEN STATUS: ON =/= 0

IEN Status < C/5 + 1 + B > = 1

LOCAL ALARM DISABLE

< C/5 + F + 0 > = ________

7 - Wire Master

Synch Time < C/5 + 1 + C > = 0.0

ROW	Plan # -->	1	2	3	4	5	6	7	8	9	ROW
0	PED ADJUST	0	0	0	0	0	0	0	0	0	0
1	PERM 2 START	0	0	0	0	0	0	0	0	0	1
2	PERM 2 END	0	0	0	0	0	0	0	0	0	2
3	PERM 3 START	0	0	0	0	0	0	0	0	0	3
4	PERM 3 END	0	0	0	0	0	0	0	0	0	4
5	RSRVC TIME	0	0	0	0	0	0	0	0	0	5
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
6	RSRVC PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7											7
8	PRETIMED PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	8
9	MAX RECALL	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	PERM 1 VEH	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	A
B	PERM 1 PED	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	B
C	PERM 2 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	C
D	PERM 2 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	D
E	PERM 3 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	E
F	PERM 3 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	F

COORDINATION PAGE 2 < C + 0 + C = 2 >

CURRENT DATE/TIME

(HR-MIN-DOW) = <8/0 + 0>
(Day-YR-MO) = <8/0 + 1>
(MN-S-1/10SEC) = <8/0 + F>

Daylight Savings Time		
Begin Month	<C/5+2+A>	0
Begin Week	<C/5+2+B>	0
End Month	<C/5+2+C>	0
End Week	<C/5+2+D>	0

Advance Warning Beacon - Sign 1		
Time Before Yellow	<F/1+C+E>	0.0
Phase Number	<F/1+C+F>	0

Advance Warning Beacon - Sign 2		
Time Before Yellow	<F/1+D+E>	0.0
Phase Number	<F/1+D+F>	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing / Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER	Date:	5/4/2020
Checked by:	JONATHAN YEE	Date:	
Approved by:	JONATHAN YEE	Date:	
Completed by:		Date:	

185 Hollywood Way & Magnolia Bl
(Intersection Name)

NOTES:

	Interval	**PHASE 1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	WALK	0	7	0	7	0	7	0	7
1	DONT WALK	0	15	0	14	0	14	0	14
2	MIN INITIAL	8	10	8	7	9	10	9	7
3	TYPE 3 LIMIT	0	20	0	20	0	20	0	20
4	ADD PER VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	VEH EXT	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
6	MAX GAP	3.0	4.0	3.0	4.0	3.0	4.0	3.0	4.0
7	MIN GAP	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
8	MAX LIMIT	35	50	25	50	35	50	25	50
9	MAXIMUM 2	35	50	25	50	35	50	25	50
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	0.5	1.0	0.5	0.5	0.5	1.0	0.5	0.5
E	YELLOW	3.6	4.0	3.6	4.0	3.6	4.0	3.6	4.0
F	RED CLEAR	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0

PHASE BANK 1 **< C + 0 + F = 1 >**

ALTERNATE TIMING

		9	A	B	C	D
1	Ph. 1	0	0	0	0	0.0
2	Ph. 2	0	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	0	0.0
6	Ph. 6	0	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0
		Maximum Initial	Alternate Walk	Alternate FDW	Alternate Initial	Alternate Extension

START / REVERT TIMES

ALL RED STRT: **<F/1 + C + 0>** = 6.0
FLASH START: **<F/1 + 0 + E>** = 0
RED REVERT: **<F/1 + 0 + F>** = 3.0

PREEMPT

	E
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

PHASE FUNCTION FLAGS
Column F

0	PERMIT	12345678
1	RED LOCK	
2	YELLOW LOCK	
3	VEH MIN CALL	_2_4_6_8
4	PED RECALL	_2___6__
5	*View Set Peds*	*_2_4_6_8*
6	REST IN WALK	
7	RED REST	
8	DOUBLE ENTRY	_2_4_6_8
9	VEH MAX CALL	
A	SOFT RECALL	
B	MAXIMUM 2	
C	COND SERVICE	
D	MAN CONT CALL	
E	YELLOW START	
F	FIRST PHASES	_2___6__

< C + 0 + F = 1 >

SPECIALS
Column F

0	FAST GRN FLH	
1	GREEN FLSH	
2	FLASH WALK	
3	GUAR PASS	
4	SIMUL GAP	
5	SEQ TIMING	
6	ADV WALK	
7	DELAY WALK	
8	EXT RECALL	
9	Sart O'LapGreen	
A	MAX EXTEN	
B	INH PED RSRV	
C	SEMI ACTUA.	
D	Sart O'LapYellow	
E	STRT VEH CALL	12345678
F	STRT PED CALL	_2_4_6_8

Specials <C + 0 + F = 2>

CNTRLR INTERVALS
0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 12

ZONE NUMBER:
< C/0 + 0 + 1 > = 1

AREA NUMBER:
< C/0 + 0 + 2 > = 2

AREA ADDRESS:
< C/0 + 0 + 3 > = 85

QUICNET CHANNEL:
UDP:8012:172.16.121.85

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >

EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

To Enable "E" Page, Set < F/1 + 9 + E = Not Zero **>**

CONTROLLER CONFIGURATION FLAGS

Column E

0	EXCLUSIVE	
1	RR 1 CLEAR	
2	RR 2 CLEAR	
3	RR 2 LTD SRV	
4	PROT/PERM	1_3_5_7_
5	FLH TO PREMT	
6	FLASH ENTRY	
7	DSABL MIN YEL	
8	DSABL OVP YEL	
9	OVP FLH YEL	
A	EM. VEH. A	
B	EM. VEH. B	
C	EM. VEH. C	
D	EM. VEH. D	
E	EXTRA 1	1_3_5___
F	IC SELECT	_2______

< C + 0 + E = 125 >

Column F

0		
1	EXT PERMIT 1	
2	EXT PERMIT 2	
3	EXCLU PED	
4	Preemp Non Lock	
5	PED 2 P OUT	_2______
6	PED 6 P OUT	______6__
7	PED 4 P OUT	___4____
8	PED 8 P OUT	________8
9	FLH YELLOW	
A	Low Prio A PH	
B	Low Prio B PH	
C	Low Prio C PH	
D	Low Prio D PH	
E	RESTRICTED	
F	EXTRA 2	___4____

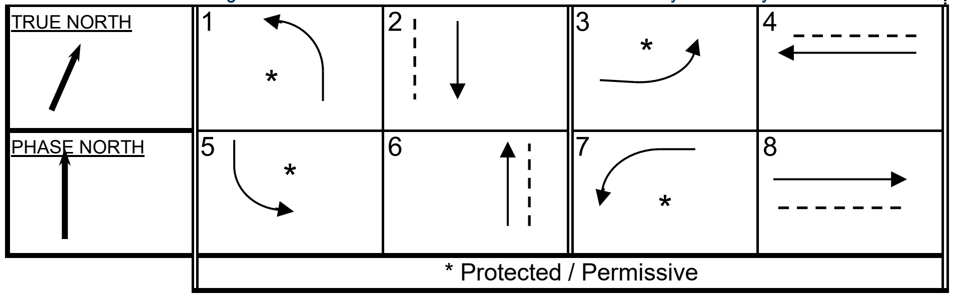
< C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

PHASE DIAGRAM

E-W Street: Magnolia Blvd N-S Street : Hollywood Way



* Protected / Permissive

Coordination

Controller: 195 Hollywood Way & Verdugo Ave

Coordination - General - 3-1	
Transition Type	**1.2**
0 = Shortway	
1 = Dwell	
2 = Shorten	
Tenths Digit: # Cycles to get in step (1–4)	
Coordination Extra	**_2______**
1 = Programmed Walk Time for Sync Phases	
2 = Always Terminate Sync Phase Peds	
3 = Floating Forceoffs	
4 = Reservice for Ped Calls	
5 = Start of Green Offset Reference	
8 = Maintain Coord. During Spec. Event Preempt	

Coordination - Phase Minimums - 3-1

Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
13	**25**	**13**	**26**	**13**	**25**	**13**	**27**

Coordination - Cycle, Offsets, & Forceoffs - 3-2-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle	**0**	**90**	**100**	**110**	**120**	**130**	**140**	**0**	**0**
Offset 1	**0**	**0**	**76**	**40**	**75**	**62**	**120**	**0**	**0**
Offset 2	**0**	**0**	**76**	**40**	**75**	**62**	**62**	**0**	**0**
Offset 3	**0**	**0**	**76**	**40**	**75**	**62**	**30**	**0**	**0**
Zone Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ring Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hold Release	**0**	**255**	**255**	**255**	**255**	**255**	**255**	**0**	**0**
Ped. Adjust	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 1	**0**	**60**	**65**	**73**	**80**	**90**	**85**	**0**	**0**
Forceoff Phase 2	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 3	**0**	**15**	**15**	**17**	**20**	**25**	**25**	**0**	**0**
Forceoff Phase 4	**0**	**45**	**50**	**55**	**60**	**70**	**65**	**0**	**0**
Forceoff Phase 5	**0**	**60**	**65**	**73**	**80**	**90**	**85**	**0**	**0**
Forceoff Phase 6	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 7	**0**	**15**	**15**	**17**	**20**	**25**	**25**	**0**	**0**
Forceoff Phase 8	**0**	**45**	**50**	**55**	**60**	**70**	**65**	**0**	**0**

Coordination - Permissives & Phase Sequences - 3-3-[Plan Number] and 3-4-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Perm 1 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - End	**0**	**2**	**2**	**2**	**2**	**2**	**2**	**0**	**0**
Perm 1 - Veh Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 1 - Ped Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 2 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 2 - Ped Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Ped Phases	________	________	________	________	________	________	________	________	________
Max Inhibit Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Max Recall Phases	________	________	________	________	________	________	________	________	________
Reservice Time	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reservice Phases	________	________	________	________	________	________	________	________	________
Sync Phases	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**	**_2___6__**
Lag Phases	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**
Pre-Timed Phases	________	________	________	________	________	________	________	________	________

Coordination - Adaptive Parameters - 3-5	
QuicTrac Max Cycle Length	**255**
QuicTrac Max Cycle Length Change	**15**

Coordination - Adaptive Operation - 3-6

Adaptive Operation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

0 = Non-Adaptive 1 = Adaptive

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Detector Timing / Overlap Timing
BiTrans 233RV2.x

266 Alameda/Riverside/Evergreen			
Prepared by:	RICHARD LOCKYER	Date:	05/05/20
Checked by:	JONATHAN YEE	Date:	

DESCRIPTION	COL->	DELAY 1	CARRY OVER 3	Standard 332 CABINET LOCATION		Column 0 C1 PIN No.	Column 1 ATTRIBUTES 1 2 3 4 5 6 7 8	Column 2 PHASE(S) 1 2 3 4 5 6 7 8	Column 3 ASSIGNMENTS 1 2 3 4 5 6 7 8
EB ADV #1	0	0.0	0.0	I-2 U	0	39	_ _ _ • • _ • _	_ • _ _ _ _ _ _	• • • _ _ _ _ •
WB ADV #1	1	0.0	0.0	J-2 U	1	40	_ _ _ • • _ • _	_ _ _ _ _ • _ _	• • • _ _ _ _ •
SB PRES	2	0.0	0.0	I-6 U	2	41	_ _ _ • • _ • _	_ _ _ • _ _ _ _	• • • _ _ _ _ •
NB ADV #1	3	0.0	0.0	J-6 U	3	42	_ _ _ • • _ • _	_ _ _ _ _ _ _ •	• • • _ _ _ _ •
EB ADV #2	4	0.0	0.0	I-2 L	4	43	_ _ _ • • _ • _	_ • _ _ _ _ _ _	• • • _ _ _ _ •
WB ADV #2	5	0.0	0.0	J-2 L	5	44	_ _ _ • • _ • _	_ _ _ _ _ • _ _	• • • _ _ _ _ •
	6	0.0	0.0	I-6 L	6	45	_ _ _ • • _ • _	_ _ _ • _ _ _ _	• • • _ _ _ _ O
NB ADV #2	7	0.0	0.0	J-6 L	7	46	_ _ _ • • _ • _	_ _ _ _ _ _ _ •	• • • _ _ _ _ •
EB PRES (VIDEO)	8	0.0	0.0	I-4	8	47	_ _ _ _ _ • • _	_ • _ _ _ _ _ _	• • • _ _ _ _ •
WB PRES (VIDEO)	9	0.0	0.0	J-4	9	48	_ _ _ _ _ • • _	_ _ _ _ _ • _ _	• • • _ _ _ _ •
	A	0.0	0.0	I-8	A	49	_ _ _ _ _ • • _	_ _ _ • _ _ _ _	• • • _ _ _ _ O
NB PRES	B	0.0	0.0	J-8	B	50	_ _ _ _ _ • • _	_ _ _ _ _ _ _ •	• • • _ _ _ _ •
	C	0.0	0.0	J-1	C	55	_ _ _ • • _ • _	_ _ _ _ • _ _ _	• • • _ _ _ _ O
	D	0.0	0.0	I-1	D	56	_ _ _ • • _ • _	• _ _ _ _ _ _ _	• • • _ _ _ _ O
	E	0.0	0.0	J-5	E	57	_ _ _ • • _ • _	_ _ _ _ _ _ • _	• • • _ _ _ _ O
	F	0.0	0.0	I-5	F	58	_ _ _ • • _ • _	_ _ • _ _ _ _ _	• • • _ _ _ _ O
	< C + 0 + D = 0 >						DETECTOR ASSIGNMENTS, < C + O + E = 126 >		

DESCRIPTION	COL->	DELAY 2	CARRY OVER 4	Standard 332 CABINET LOCATION		Column 4 C1 PIN No.	Column 5 ATTRIBUTES 1 2 3 4 5 6 7 8	Column 6 PHASE(S) 1 2 3 4 5 6 7 8	Column 7 ASSIGNMENTS 1 2 3 4 5 6 7 8
	0	0.0	0.0	J-9 U	0	59	_ _ _ • • _ • _	_ _ _ _ • _ _ _	• • • _ _ _ _ O
	1	0.0	0.0	I-9 U	1	60	_ _ _ • • _ • _	• _ _ _ _ _ _ _	• • • _ _ _ _ O
	2	0.0	0.0	J-9 L	2	61	_ _ _ • • _ • _	_ _ _ _ _ _ • _	• • • _ _ _ _ O
	3	0.0	0.0	I-9 L	3	62	_ _ _ • • _ • _	_ _ • _ _ _ _ _	• • • _ _ _ _ O
EB LT REAR	4	0.0	0.0	I-3 U	4	63	_ _ _ • • _ • _	_ • _ _ _ _ _ _	• • • _ _ _ _ •
WB LT REAR	5	0.0	0.0	J-3 U	5	64	_ _ _ • • _ • _	_ _ _ _ _ • _ _	• • • _ _ _ _ •
EB LT BIKE (VIDEO)	6	0.0	0.0	J-13 U	6	72	_ _ _ • • _ • _	_ X _ 0 _ _ _ _	• • • _ _ _ _ O
NB LT REAR	7	0.0	0.0	J-7 U	7	66	_ _ _ • • _ • _	_ _ _ _ _ _ _ •	• • • _ _ _ _ •
Ph 2 PPB	8	0.0	0.0	I-12 U	8	67	_ • _ _ _ _ _ _	_ • _ _ _ _ _ _	• • • _ _ _ _ O
Ph 6 PPB	9	0.0	0.0	I-13 U	9	68	_ • _ _ _ _ _ _	_ _ _ _ _ • _ _	• • • _ _ _ _ O
	A	0.0	0.0	I-12 L	A	69	_ • _ _ _ _ _ _	_ _ _ 0 _ _ _ _	• • • _ _ _ _ O
Ph 8 PPB	B	0.0	0.0	I-13 L	B	70	_ • _ _ _ _ _ _	_ _ _ _ _ _ _ •	• • • _ _ _ _ O
EB LT FRONT	C	0.0	0.0	I-3 L	C	76	_ _ _ • • _ • _	_ • _ _ _ _ _ _	• • • _ _ _ _ •
WB LT FRONT	D	0.0	0.0	J-3 L	D	77	_ _ _ • • _ • _	_ _ _ _ _ • _ _	• • • _ _ _ _ •
WB LT BIKE (VIDEO)	E	0.0	0.0	J-13 L	E	74	_ _ _ • • _ • _	_ _ _ 0 _ X _ _	• • • _ _ _ _ O
NB LT FRONT	F	0.0	0.0	J-7 L	F	79	_ _ _ • • _ • _	_ _ _ _ _ _ _ •	• • • _ _ _ _ •
	< C + 0 + D = 0 >						DETECTOR ASSIGNMENTS, < C + O + E = 126 >		

Legend: "•" = Default Settings; "X" = New Settings; "O" = Cleared Default Settings

TO ENABLE "E" PAGE, SET < F + 9 + E =/= 0 >

Detector Monitor
MAX OFF:
< D/0 + 0 + 1 > = 250
MAX ON:
< D/0 + 0 + 2 > = 14
CHATTER TIME:
< D/0 + 0 + 4 > = 0

Power Cycle
Correction Factors
LONG FAILURE:
< F/1 + 0 + 6 > = 0.7
SHORT FAILURE:
< F/1 + 0 + 7 > = 0.7

NOTE:
Do Not Set To Zero
Default Value = 0.5 Sec.

NOTE:
< D/0 + 0 + 1 > = 255
Disables "Detector Stuck-Off" Failure Reporting

	OVERLAP #	1	2	3	4	5	6	7	8	
0	LOAD SWITCH #	1	0	0	0	0	0	0	0	0
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
1	VEH SET 1	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	1
2	VEH SET 2	_ _ _ _ _ _ _ 8	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	2
3	VEH SET 3	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	3
4	NEG. VEH.	_ 2 _ 4 _ 6 _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	4
5	NEG. PED.	_ 2 _ _ _ 6 _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	5
6	GREEN OMIT	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7	GRN CLR OMIT	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	7
8										8
9	QUE. JUMP PHASE	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	QUE. JUMP TIME	0	0	0	0	0	0	0	0	A
B										B
C										C
D	GREEN CLEAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	D
E	YELLOW CHANGE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	E
F	RED CLEAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	F

OVERLAP ASSIGNMENTS < C + 0 + E = 29 >

DET. ATTRIBUTES
1= Full Time Delay
2 = Pedestrian Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

DET. ASSIGNMENTS
1 = Det. Set # 1
2 = Det. Set # 2
3 = Det. Set # 3
4 =
5 =
6 = MIN Recall On Failure
7 = MAX Recall On Failure
8 = Report On Failure

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Coordination

Controller: 113 Alameda Ave & Pass Ave

Coordination - General - 3-1	
Transition Type	**1.3**
0 = Shortway	
1 = Dwell	
2 = Shorten	
Tenths Digit: # Cycles to get in step (1–4)	
Coordination Extra	**_2______**
1 = Programmed Walk Time for Sync Phases	
2 = Always Terminate Sync Phase Peds	
3 = Floating Forceoffs	
4 = Reservice for Ped Calls	
5 = Start of Green Offset Reference	
8 = Maintain Coord. During Spec. Event Preempt	

Coordination - Phase Minimums - 3-1

Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
14	**27**	**14**	**30**	**14**	**27**	**16**	**30**

Coordination - Cycle, Offsets, & Forceoffs - 3-2-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle	**120**	**0**	**100**	**110**	**120**	**130**	**140**	**0**	**0**
Offset 1	**19**	**0**	**0**	**41**	**19**	**19**	**89**	**0**	**0**
Offset 2	**22**	**0**	**22**	**22**	**22**	**22**	**81**	**0**	**0**
Offset 3	**19**	**0**	**0**	**19**	**16**	**19**	**53**	**0**	**0**
Zone Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ring Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hold Release	**255**	**0**	**255**	**255**	**255**	**255**	**255**	**0**	**0**
Ped. Adjust	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 1	**16**	**0**	**15**	**16**	**16**	**20**	**20**	**0**	**0**
Forceoff Phase 2	**50**	**0**	**48**	**50**	**50**	**57**	**62**	**0**	**0**
Forceoff Phase 3	**70**	**0**	**64**	**66**	**70**	**77**	**82**	**0**	**0**
Forceoff Phase 4	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 5	**16**	**0**	**18**	**16**	**16**	**20**	**20**	**0**	**0**
Forceoff Phase 6	**50**	**0**	**48**	**50**	**50**	**57**	**62**	**0**	**0**
Forceoff Phase 7	**80**	**0**	**68**	**75**	**80**	**85**	**90**	**0**	**0**
Forceoff Phase 8	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Coordination - Permissives & Phase Sequences - 3-3-[Plan Number] and 3-4-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Perm 1 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - Veh Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 1 - Ped Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 2 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 2 - Ped Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Ped Phases	________	________	________	________	________	________	________	________	________
Max Inhibit Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Max Recall Phases	________	________	________	________	________	________	________	________	________
Reservice Time	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reservice Phases	________	________	________	________	________	________	________	________	________
Sync Phases	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**
Lag Phases	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**
Pre-Timed Phases	________	________	________	________	________	________	________	________	________

Coordination - Adaptive Parameters - 3-5	
QuicTrac Max Cycle Length	**255**
QuicTrac Max Cycle Length Change	**15**

Coordination - Adaptive Operation - 3-6

Adaptive Operation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

0 = Non-Adaptive 1 = Adaptive

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Coordination

Controller: 242 Olive Ave & Pass Ave

Coordination - General - 3-1	
Transition Type	1.3
0 = Shortway	
1 = Dwell	
2 = Shorten	
Tenths Digit: # Cycles to get in step (1–4)	
Coordination Extra	_2______
1 = Programmed Walk Time for Sync Phases	
2 = Always Terminate Sync Phase Peds	
3 = Floating Forceoffs	
4 = Reservice for Ped Calls	
5 = Start of Green Offset Reference	
8 = Maintain Coord. During Spec. Event Preempt	

Coordination - Phase Minimums - 3-1

Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
0	25	14	16	13	29	0	0

Coordination - Cycle, Offsets, & Forceoffs - 3-2-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle	0	90	100	110	120	130	140	0	0
Offset 1	0	0	0	26	3	120	100	0	0
Offset 2	0	84	30	26	3	120	100	0	0
Offset 3	0	0	0	26	3	120	100	0	0
Zone Offset	0	0	0	0	0	0	0	0	0
Ring Offset	0	0	0	0	0	0	0	0	0
Hold Release	0	255	255	255	255	255	255	0	0
Ped. Adjust	0	0	0	0	0	0	0	0	0
Forceoff Phase 1	0	0	0	0	0	0	0	0	0
Forceoff Phase 2	0	0	0	0	0	0	0	0	0
Forceoff Phase 3	0	17	20	25	25	25	30	0	0
Forceoff Phase 4	0	36	40	45	50	50	55	0	0
Forceoff Phase 5	0	52	60	70	70	75	80	0	0
Forceoff Phase 6	0	0	0	0	0	0	0	0	0
Forceoff Phase 7	0	0	0	0	0	0	0	0	0
Forceoff Phase 8	0	36	40	45	50	50	55	0	0

Coordination - Permissives & Phase Sequences - 3-3-[Plan Number] and 3-4-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Perm 1 - Begin	0	0	0	0	0	0	0	0	0
Perm 1 - End	0	0	0	0	0	0	0	0	0
Perm 1 - Veh Phases	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
Perm 1 - Ped Phases	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
Perm 2 - Begin	0	0	0	0	0	0	0	0	0
Perm 2 - End	0	0	0	0	0	0	0	0	0
Perm 2 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 2 - Ped Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Begin	0	0	0	0	0	0	0	0	0
Perm 3 - End	0	0	0	0	0	0	0	0	0
Perm 3 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Ped Phases	________	________	________	________	________	________	________	________	________
Max Inhibit Phases	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678	12345678
Max Recall Phases	________	________	________	________	________	________	________	________	________
Reservice Time	0	0	0	0	0	0	0	0	0
Reservice Phases	________	________	________	________	________	________	________	________	________
Sync Phases	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__	_2___6__
Lag Phases	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8	_2_4_6_8
Pre-Timed Phases	________	________	________	________	________	________	________	________	________

Coordination - Adaptive Parameters - 3-5	
QuicTrac Max Cycle Length	255
QuicTrac Max Cycle Length Change	15

Coordination - Adaptive Operation - 3-6

Adaptive Operation	0	0	0	0	0	0	0	0	0

0 = Non-Adaptive 1 = Adaptive

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing / Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER		Date: 4/16/2020
Checked by:	JONATHAN YEE		Date:
Approved by:	JONATHAN YEE		Date:
Completed by:			Date:

106 Alameda Ave & Hollywood Way
(Intersection Name)

NOTES:

	Interval	PHASE 1	2	3	4	5	6	7	8
0	WALK	0	7	0	7	0	7	0	7
1	DONT WALK	0	19	0	21	0	21	0	19
2	MIN INITIAL	9	11	9	11	9	11	11	11
3	TYPE 3 LIMIT	0	0	0	0	0	25	0	0
4	ADD PER VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	VEH EXT	2.0	3.0	2.0	4.0	2.0	3.0	4.0	3.0
6	MAX GAP	3.0	4.0	3.0	5.0	3.0	4.0	5.0	4.0
7	MIN GAP	1.5	2.0	1.5	3.0	1.5	2.0	2.5	2.0
8	MAX LIMIT	25	45	20	45	20	35	20	35
9	MAXIMUM 2	35	60	20	65	40	45	30	35
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	1.3	1.0	0.7	1.5	0.7	1.0	1.2	1.0
E	YELLOW	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
F	RED CLEAR	1.0	2.0	2.0	2.0	1.0	2.0	1.0	2.0

PHASE BANK 1 **< C + 0 + F = 1 >**

ALTERNATE TIMING

		9	A	B	C	D
1	Ph. 1	0	0	0	0	0.0
2	Ph. 2	0	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	0	0.0
6	Ph. 6	0	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0
		Maximum Initial	Alternate Walk	Alternate FDW	Alternate Initial	Alternate Extension

PREEMPT

	E
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

START / REVERT TIMES

ALL RED STRT: **<F/1 + C + 0>** = 6.0
FLASH START: **<F/1 + 0 + E>** = 0
RED REVERT: **<F/1 + 0 + F>** = 3.0

PHASE FUNCTION FLAGS
Column F

0	PERMIT	12345678
1	RED LOCK	1_3_5_7_
2	YELLOW LOCK	1_3_5_7_
3	VEH MIN CALL	_2_4_6_8
4	PED RECALL	
5	*View Set Peds*	_2_4_6_8
6	REST IN WALK	
7	RED REST	
8	DOUBLE ENTRY	
9	VEH MAX CALL	
A	SOFT RECALL	
B	MAXIMUM 2	
C	COND SERVICE	
D	MAN CONT CALL	
E	YELLOW START	
F	FIRST PHASES	_2___6__

< C + 0 + F = 1 >

SPECIALS
Column F

0	FAST GRN FLH	
1	GREEN FLSH	
2	FLASH WALK	
3	GUAR PASS	
4	SIMUL GAP	
5	SEQ TIMING	
6	ADV WALK	
7	DELAY WALK	
8	EXT RECALL	
9	Sart O'LapGreen	
A	MAX EXTEN	
B	INH PED RSRV	
C	SEMI ACTUA.	
D	Sart O'LapYellow	
E	STRT VEH CALL	12345678
F	STRT PED CALL	_2_4_6_8

Specials <C + 0 + F = 2>

CNTRLR INTERVALS
0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 6

ZONE NUMBER:
< C/0 + 0 + 1 > = 1

AREA NUMBER:
< C/0 + 0 + 2 > = 2

AREA ADDRESS:
< C/0 + 0 + 3 > = 6

QUICNET CHANNEL:
UDP:8018:172.16.121.6

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >

EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

To Enable "E" Page, Set < F/1 + 9 + E = Not Zero **>**

CONTROLLER CONFIGURATION FLAGS

Column E

0	EXCLUSIVE	
1	RR 1 CLEAR	
2	RR 2 CLEAR	
3	RR 2 LTD SRV	
4	PROT/PERM	
5	FLH TO PREMT	
6	FLASH ENTRY	
7	DSABL MIN YEL	
8	DSABL OVP YEL	
9	OVP FLH YEL	
A	EM. VEH. A	
B	EM. VEH. B	
C	EM. VEH. C	
D	EM. VEH. D	
E	EXTRA 1	1_3_5___
F	IC SELECT	_2______

< C + 0 + E = 125 >

Column F

0		
1	EXT PERMIT 1	
2	EXT PERMIT 2	
3	EXCLU PED	
4	Preemp Non Lock	
5	PED 2 P OUT	_2______
6	PED 6 P OUT	_____6__
7	PED 4 P OUT	___4____
8	PED 8 P OUT	_______8
9	FLH YELLOW	
A	Low Prio A PH	
B	Low Prio B PH	
C	Low Prio C PH	
D	Low Prio D PH	
E	RESTRICTED	
F	EXTRA 2	___4____

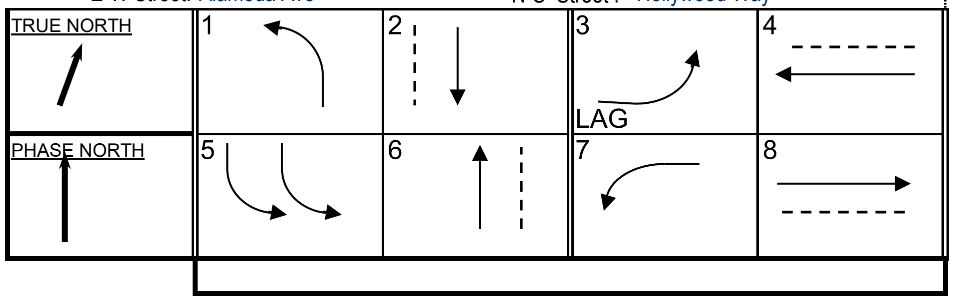
< C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

PHASE DIAGRAM

E-W Street: Alameda Ave N-S Street : Hollywood Way



CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Phase Bank 1 & Phase Functions

Controller: 190 Hollywood Wy & Riverside Dr

Phase Functions - Page 1 - 1-1

Red Lock	________
Yellow Lock	________
Simultaneous Gap	________
Rest In Walk	________
Advance Walk	________
Flashing Walk	________
Max Extension	________
Red Rest	________
Dual Entry	___4___8
Sequential Timing	________
Inhibit Ped Reservice	________
Delay Walk	________
Guaranteed Passage	________
Conditional Service	________

Phase Functions - Page 2 - 1-2

Minimum Recall	_2_4_6_8
Ped Recall	_2___6__
Maximum Recall	________
Green Flash	________
Overlap Green Flash	________
Flashing Yellow Arrow for PPLT	1_3_5___
Soft Recall	________
External Recall	________
Manual Control Calls	________
Fast Green Flash	________
Fast Overlap Green Flash	________
Semi-Actuated	________

Startup - 9-1

Flash Start	0
All Red Start	6.0
Yellow Start Phases	________
First Green Phases	_2___6__
Startup Vehicle Calls	123456_8
Startup Ped Calls	_2_4_6_8

Detector Monitoring - 9-3

Max On	14
Max Off	250
Chatter	255

Advance Warning Signs - 9-4

	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Phase Timing - Bank 1 - 1-3-[1]

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	10	15	8	10	11	15	0	10
Extension	2.5	3.0	2.5	3.0	2.5	3.0	0.0	3.0
Max	15	45	15	45	15	45	0	45
Max 2	20	45	20	60	20	45	0	60
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing - 1-4-[1]								
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	0.0	4.0
Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	0.0	2.0
Pedestrian Timing - 1-5-[1]								
Walk	0	7	0	7	0	7	0	7
Pedestrian Change	0	18	0	19	0	21	0	21
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density - 1-6-[1]								
Type 3 Disconnect	0	20	0	20	0	20	0	20
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	2.5	2.0	2.5	2.0	2.5	2.0	0.0	2.0
Max Gap	2.5	4.0	2.5	4.0	2.5	4.0	0.0	4.0
Reduce Every	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
Alternate Timing - 1-7-[1]								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Configuration - 9-5

Exclusive Phases	________	Permitted Phases	123456_8
Protected/Permissive Phases	1_3_5___	Restricted Phases	________
Disable Phase Min. Yellow	________	Disable Overlap Min. Yellow	________
Free Lag Phases	_2_4_6_8	External Permit 1	________
External Lag Phases	_2_4_6_8	External Permit 2	________
Pedestrian Forceoff Phases	________	External Permit 3	________
Extra One	123_5___	Extra Two	___4__7_

1 = TBC Type 1
2 = (unused)
3 = Adjust Clock for Daylight Saving Time
4 = Terminate Ped. for EV Preempt
5 = QuicComm Extended Status
6 = International Style Pedestrian Change Interval
7 = (unused)
8 = Split Ring Operation

1 = Adv. Warn. Signs On During Min. Init.
2 = Siemens i2 Communications Protocol
3 = Disable Minimum Walk Check
4 = QuicNet System Communications
5 = Ignore Anti-Backup During Preempt
6 = Bridgeport Naztec TS 2 I/O Map
7 = Allow Remote Preemption Calls
8 = Caltrans Traf. Resp. FM Comm.

Phase Timing - Exclusive Pedestrian - 1-8

Exclusive Ped Assignment	________
Exclusive Walk	0
Exclusive Pedestrian Change	0
Red Clear	0.0
Walk Output	0
Don't Walk Output	0

Clock Set - 9-6

Manual Operation - 9-7

Manual Plan	0

1–9 = Coordination Plans
14 = Free
15 = Flash

Manual Offset	0

Software Flash - 9-8

Flash Entry Phases	________
Flash Yellow Phases	________
Flash Yellow Overlaps	________
Flash Type	0

0 = All On/All Off (1-2-3-4-5-6-7-8, dark)
1 = Main/Side (1-2-5-6, 3-4-7-8)
2 = Odd/Even (1-3-5-7, 2-4-6-8)
3 = Ring Pairs (1-6, 4-7, 2-5, 3-8)

Misc - 9-9

Keyboard Beep	N
Backlight Timeout	10
Soft Recall Delay	3.0
Red Revert	3.0
FYA Delay	0

Daylight Saving Time - 9-C

Start Month	0
Start Week	0
End Month	0
End Week	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Phase Bank 1 & Phase Functions

Controller: 188 Hollywood Way & Olive Ave

Phase Functions - Page 1 - 1-1	
Red Lock	________
Yellow Lock	________
Simultaneous Gap	________
Rest In Walk	________
Advance Walk	___4___8
Flashing Walk	________
Max Extension	________
Red Rest	________
Dual Entry	___4___8
Sequential Timing	________
Inhibit Ped Reservice	________
Delay Walk	________
Guaranteed Passage	________
Conditional Service	________

Phase Functions - Page 2 - 1-2	
Minimum Recall	_2___6__
Ped Recall	_2___6__
Maximum Recall	________
Green Flash	________
Overlap Green Flash	________
Flashing Yellow Arrow for PPLT	1___5___
Soft Recall	________
External Recall	________
Manual Control Calls	________
Fast Green Flash	________
Fast Overlap Green Flash	________
Semi-Actuated	________

Startup - 9-1	
Flash Start	0
All Red Start	6.0
Yellow Start Phases	________
First Green Phases	_2___6__
Startup Vehicle Calls	12_456_8
Startup Ped Calls	_2_4_6_8

Detector Monitoring - 9-3	
Max On	14
Max Off	250
Chatter	255

Advance Warning Signs - 9-4		
	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Phase Timing - Bank 1 - 1-3-[1]								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	9	20	0	14	9	10	0	14
Extension	3.0	3.0	0.0	3.0	3.0	3.0	0.0	3.0
Max	40	40	0	50	40	40	0	50
Max 2	40	40	0	50	40	40	0	50
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing - 1-4-[1]								
Yellow Change	4.0	4.0	0.0	4.0	4.0	4.0	0.0	4.0
Red Clear	1.0	2.0	0.0	1.0	1.0	2.0	0.0	1.0
Pedestrian Timing - 1-5-[1]								
Walk	0	7	0	7	0	7	0	7
Pedestrian Change	0	24	0	20	0	12	0	25
Advance/Delay Walk	0	0	0	7	0	0	0	7
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density - 1-6-[1]								
Type 3 Disconnect	0	20	0	0	0	20	0	0
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	3.0	2.0	0.0	3.0	3.0	2.0	0.0	3.0
Max Gap	3.0	4.0	0.0	3.0	3.0	4.0	0.0	3.0
Reduce Every	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
Alternate Timing - 1-7-[1]								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Configuration - 9-5			
Exclusive Phases	________	Permitted Phases	12_456_8
Protected/Permissive Phases	1___5___	Restricted Phases	________
Disable Phase Min. Yellow	________	Disable Overlap Min. Yellow	________
Free Lag Phases	_2_4_6_8	External Permit 1	________
External Lag Phases	_2_4_6_8	External Permit 2	________
Pedestrian Forceoff Phases	________	External Permit 3	________
Extra One	1_3_5___	Extra Two	___4__7_

1 = TBC Type 1
2 = (unused)
3 = Adjust Clock for Daylight Saving Time
4 = Terminate Ped. for EV Preempt
5 = QuicComm Extended Status
6 = International Style Pedestrian Change Interval
7 = (unused)
8 = Split Ring Operation

1 = Adv. Warn. Signs On During Min. Init.
2 = Siemens i2 Communications Protocol
3 = Disable Minimum Walk Check
4 = QuicNet System Communications
5 = Ignore Anti-Backup During Preempt
6 = Bridgeport Naztec TS 2 I/O Map
7 = Allow Remote Preemption Calls
8 = Caltrans Traf. Resp. FM Comm.

Phase Timing - Exclusive Pedestrian - 1-8	
Exclusive Ped Assignment	________
Exclusive Walk	0
Exclusive Pedestrian Change	0
Red Clear	0.0
Walk Output	0
Don't Walk Output	0

Clock Set - 9-6

Manual Operation - 9-7	
Manual Plan	0
1–9 = Coordination Plans	
14 = Free	
15 = Flash	
Manual Offset	0

Software Flash - 9-8	
Flash Entry Phases	________
Flash Yellow Phases	________
Flash Yellow Overlaps	________
Flash Type	0

0 = All On/All Off (1-2-3-4-5-6-7-8, dark)
1 = Main/Side (1-2-5-6, 3-4-7-8)
2 = Odd/Even (1-3-5-7, 2-4-6-8)
3 = Ring Pairs (1-6, 4-7, 2-5, 3-8)

Misc - 9-9	
Keyboard Beep	N
Backlight Timeout	10
Soft Recall Delay	3.0
Red Revert	3.0
FYA Delay	0

Daylight Saving Time - 9-C	
Start Month	0
Start Week	0
End Month	0
End Week	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

System & Comm

Controller: 217 Olive Ave & Riverside Dr

QuicNet® System	
System ID	117
Central Control Grp	#NAME?
Field Master	#NAME?
N-S Street	#NAME?
E-W Street	#NAME?

Prepared by:	RICHARD LOCKYER		Date:	7/27/2021
Checked by:	DAVID WILCOX		Date:	
Approved by:	VIKKI DAVTIAN		Date:	
Completed by:			Date:	

Database Last Changed
7/16/2021 13:51

2070L / 2070E
McCain 2033

NOTES:

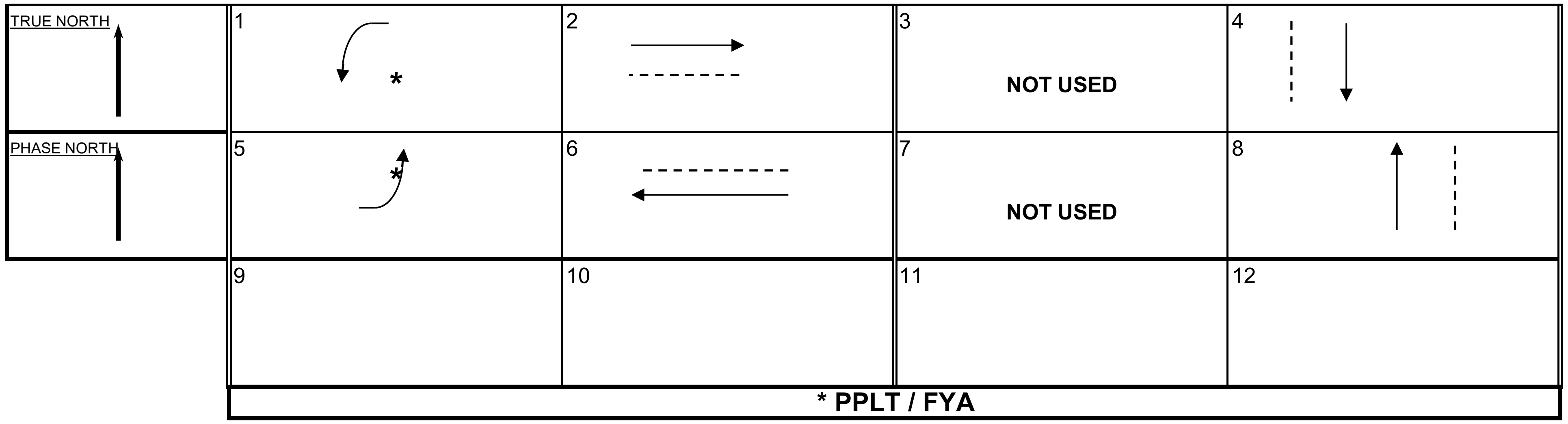
1	2	2P	3	4	4P
🔴 16 🟡 17 F 18	🔴 12 🟡 13 🟢 15	🔴 10 🟢 35 ⚪ 11	● 7 ● 8 ● 9	🔴 4 🟡 5 🟢 6	🔴 2 ● 37 ⚪ 3
5	**6**	**6P**	**7**	**8**	**8P**
🔴 32 🟡 33 F 34	🔴 29 🟡 30 🟢 31	🔴 27 🟢 36 ⚪ 28	● 24 ● 25 ● 26	🔴 21 🟡 22 🟢 23	🔴 19 ● 38 ⚪ 20
OLA	**OLB**		**OLC**	**OLD**	
● 97 ● 98 ● 99	● 94 ● 95 ● 96	● 91 ● 101 ● 93	● 88 ● 89 ● 90	● 85 ● 86 ● 87	● 83 ● 100 ● 84

QuicNet Timing Notes

Ethernet Communications - 9-A	
QuicComm IP Port	#NAME?
AB3418E IP Port	0
FtHills IP Port	0
Opticom IP Port	0
IP Address	#NAME?
SubNet Mask	255.255.255.0
Gateway	172.16.121.254
Address	9
Area Number	2
Area Address	117

PHASE DIAGRAM

E-W Street: #NAME? N-S Street : #NAME?



*** PPLT / FYA**

Serial Communications - 9-2-1	
Port Number	1
Address	9
Area Number	2
Area Address	117
Protocol	QuicComm
Baud Rate	9600
Data Bits	8-EVEN-1
Comm Timeout	5
RTS HOLD	6
CTS DELAY	8

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing / Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER		Date:	4/16/2020
Checked by:	JONATHAN YEE		Date:	
Approved by:	JONATHAN YEE		Date:	
Completed by:			Date:	

112 Alameda Ave & Olive Ave
(Intersection Name)

NOTES:
RED FLASH JUMPERS FOR PHASES 3 AND 7 MUST BE PROGRAMMED FOR YELLOW FLASH, CHANNELS ARE PED OUTPUTS

PHASE

	Interval	1	2	3	4	5	6	7	8
0	WALK	0	5	5	5	0	5	5	5
1	DONT WALK	0	24	16	10	0	26	12	13
2	MIN INITIAL	10	15	1	17	10	15	1	17
3	TYPE 3 LIMIT	0	25	0	0	0	25	0	0
4	ADD PER VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	VEH EXT	2.5	4.0	0.0	3.0	2.5	4.0	0.0	3.0
6	MAX GAP	2.5	5.0	0.0	3.0	2.5	5.0	0.0	3.0
7	MIN GAP	2.5	3.0	0.0	3.0	2.5	3.0	0.0	3.0
8	MAX LIMIT	30	45	1	45	30	45	1	45
9	MAXIMUM 2	30	45	1	45	30	45	1	45
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	0.0	1.0	0.0	0.0	0.0	1.0	0.0	0.0
E	YELLOW	4.0	4.0	0.0	4.0	4.0	4.0	0.0	4.0
F	RED CLEAR	3.5	4.0	1.0	2.5	3.5	4.0	1.0	2.5

PHASE BANK 1 **< C + 0 + F = 1 >**

ALTERNATE TIMING

		9	A	B	C	D
1	Ph. 1	0	0	0	18	5.0
2	Ph. 2	0	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	17	5.0
6	Ph. 6	0	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0
		Maximum Initial	Alternate Walk	Alternate FDW	Alternate Initial	Alternate Extension

START / REVERT TIMES

ALL RED STRT: **<F/1 + C + 0>** = 6.0
FLASH START: **<F/1 + 0 + E>** = 0
RED REVERT: **<F/1 + 0 + F>** = 3.0

PREEMPT

	E
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

PHASE FUNCTION FLAGS
Column F

0	PERMIT	12345678
1	RED LOCK	1 5
2	YELLOW LOCK	1 5
3	VEH MIN CALL	_2_4_6_8
4	PED RECALL	
5	*View Set Peds*	*_234_678*
6	REST IN WALK	
7	RED REST	
8	DOUBLE ENTRY	_2_4_6_8
9	VEH MAX CALL	
A	SOFT RECALL	
B	MAXIMUM 2	
C	COND SERVICE	
D	MAN CONT CALL	
E	YELLOW START	
F	FIRST PHASES	4 8

< C + 0 + F = 1 >

SPECIALS
Column F

0	FAST GRN FLH	
1	GREEN FLSH	
2	FLASH WALK	
3	GUAR PASS	
4	SIMUL GAP	
5	SEQ TIMING	
6	ADV WALK	
7	DELAY WALK	
8	EXT RECALL	
9	Sart O'LapGreen	
A	MAX EXTEN	
B	INH PED RSRV	34 78
C	SEMI ACTUA.	
D	Sart O'LapYellow	
E	STRT VEH CALL	12_456_8
F	STRT PED CALL	_234_678

Specials <C + 0 + F = 2>

CNTRLR INTERVALS
0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 12
ZONE NUMBER:
< C/0 + 0 + 1 > = 1
AREA NUMBER:
< C/0 + 0 + 2 > = 2
AREA ADDRESS:
< C/0 + 0 + 3 > = 12
QUICNET CHANNEL:
UDP:8018:172.16.121.12

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >
2) Key stroke: PAGE + COLUMN + ROW

EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

To Enable "E" Page, Set < F/1 + 9 + E = Not Zero **>**

CONTROLLER CONFIGURATION FLAGS

Column E

0	EXCLUSIVE	
1	RR 1 CLEAR	
2	RR 2 CLEAR	
3	RR 2 LTD SRV	
4	PROT/PERM	
5	FLH TO PREMT	
6	FLASH ENTRY	
7	DSABL MIN YEL	3 7
8	DSABL OVP YEL	
9	OVP FLH YEL	
A	EM. VEH. A	
B	EM. VEH. B	
C	EM. VEH. C	
D	EM. VEH. D	
E	EXTRA 1	1_3_5
F	IC SELECT	2

< C + 0 + E = 125 >

Column F

0		
1	EXT PERMIT 1	
2	EXT PERMIT 2	
3	EXCLU PED	
4	Preemp Non Lock	
5	PED 2 P OUT	2
6	PED 6 P OUT	6
7	PED 4 P OUT	4
8	PED 8 P OUT	8
9	FLH YELLOW	
A	Low Prio A PH	
B	Low Prio B PH	
C	Low Prio C PH	
D	Low Prio D PH	
E	RESTRICTED	
F	EXTRA 2	4

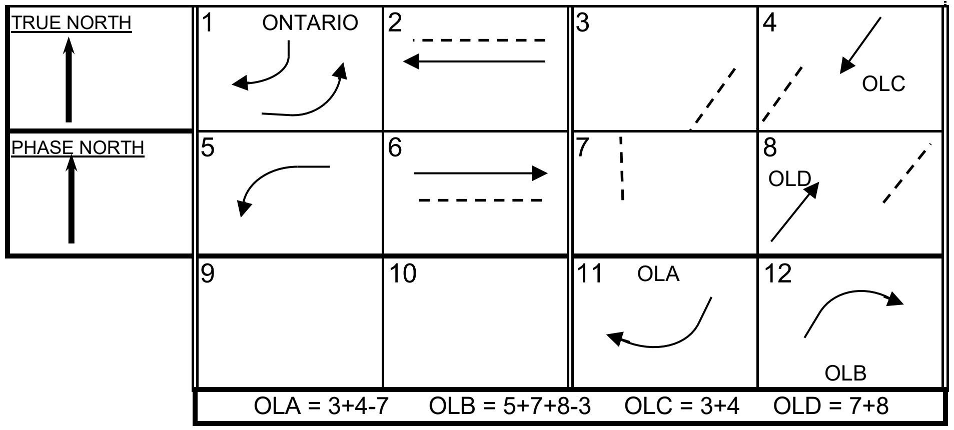
< C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

PHASE DIAGRAM

E-W Street: Alameda Ave N-S Street : Olive Ave



OLA = 3+4-7 OLB = 5+7+8-3 OLC = 3+4 OLD = 7+8

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing / Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER		Date:	7/27/2021
Checked by:	DAVID WILCOX		Date:	
Approved by:	VIKKI DAVTIAN		Date:	
Completed by:			Date:	

129 Buena Vista St & Glenoaks Blvd

RESP CTRL GRP: GLENOAKS NORTH RESPONSIVE

NOTES:

	Interval	PHASE 1	2	3	4	5	6	7	8
0	WALK	0	7	0	7	0	7	0	7
1	DONT WALK	0	10	0	16	0	17	0	16
2	MIN INITIAL	0	10	0	10	6	10	6	10
3	TYPE 3 LIMIT	0	0	0	0	0	0	0	0
4	ADD PER VEH	0.0	0.5	0.0	0.0	0.0	0.5	0.0	0.0
5	VEH EXT	0.0	3.5	0.0	3.0	2.5	3.5	2.5	3.0
6	MAX GAP	0.0	4.5	0.0	4.0	2.5	4.5	2.5	4.0
7	MIN GAP	0.0	2.5	0.0	2.5	2.5	2.5	2.5	2.0
8	MAX LIMIT	0	50	0	50	20	50	10	50
9	MAXIMUM 2	0	50	0	50	20	50	15	50
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
E	YELLOW	0.0	4.5	0.0	4.0	4.0	4.5	3.6	4.0
F	RED CLEAR	0.0	2.0	0.0	2.0	1.0	2.0	1.0	2.0

PHASE BANK 1 < C + 0 + F = 1 >

		ALTERNATE TIMING 9 Maximum Initial	A Alternate Walk	B Alternate FDW	C Alternate Initial	D Alternate Extension
1	Ph. 1	0	0	0	0	0.0
2	Ph. 2	21	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	0	0.0
6	Ph. 6	21	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0

START / REVERT TIMES

ALL RED STRT: <F/1 + C + 0> = 6.0
FLASH START: <F/1 + 0 + E> = 0
RED REVERT: <F/1 + 0 + F> = 3.0

PREEMPT	E
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

PHASE FUNCTION FLAGS

	Column F	
0	PERMIT	#NAME?
1	RED LOCK	#NAME?
2	YELLOW LOCK	#NAME?
3	VEH MIN CALL	#NAME?
4	PED RECALL	#NAME?
5	*View Set Peds*	*#NAME?*
6	REST IN WALK	#NAME?
7	RED REST	#NAME?
8	DOUBLE ENTRY	#NAME?
9	VEH MAX CALL	#NAME?
A	SOFT RECALL	#NAME?
B	MAXIMUM 2	#NAME?
C	COND SERVICE	#NAME?
D	MAN CONT CALL	#NAME?
E	YELLOW START	#NAME?
F	FIRST PHASES	#NAME?

< C + 0 + F = 1 >

SPECIALS

	Column F	
0	FAST GRN FLH	#NAME?
1	GREEN FLSH	#NAME?
2	FLASH WALK	#NAME?
3	GUAR PASS	#NAME?
4	SIMUL GAP	#NAME?
5	SEQ TIMING	#NAME?
6	ADV WALK	#NAME?
7	DELAY WALK	#NAME?
8	EXT RECALL	#NAME?
9	Sart O'LapGreen	#NAME?
A	MAX EXTEN	#NAME?
B	INH PED RSRV	#NAME?
C	SEMI ACTUA.	#NAME?
D	Sart O'LapYellow	#NAME?
E	STRT VEH CALL	#NAME?
F	STRT PED CALL	#NAME?

Specials <C + 0 + F = 2>

CNTRLR INTERVALS

0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 7

ZONE NUMBER:
< C/0 + 0 + 1 > = 1

AREA NUMBER:
< C/0 + 0 + 2 > = 2

AREA ADDRESS:
< C/0 + 0 + 3 > = 29

QUICNET CHANNEL:
UDP:8015:172.16.121.29

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >

EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

To Enable "E" Page, Set < F/1 + 9 + E = Not Zero >

CONTROLLER CONFIGURATION FLAGS

	Column E			Column F	
0	EXCLUSIVE	#NAME?	0		
1	RR 1 CLEAR	#NAME?	1	EXT PERMIT 1	#NAME?
2	RR 2 CLEAR	#NAME?	2	EXT PERMIT 2	#NAME?
3	RR 2 LTD SRV	#NAME?	3	EXCLU PED	#NAME?
4	PROT/PERM	#NAME?	4	Preemp Non Lock	#NAME?
5	FLH TO PREMT	#NAME?	5	PED 2 P OUT	#NAME?
6	FLASH ENTRY	#NAME?	6	PED 6 P OUT	#NAME?
7	DSABL MIN YEL	#NAME?	7	PED 4 P OUT	#NAME?
8	DSABL OVP YEL	#NAME?	8	PED 8 P OUT	#NAME?
9	OVP FLH YEL	#NAME?	9	FLH YELLOW	#NAME?
A	EM. VEH. A	#NAME?	A	Low Prio A PH	#NAME?
B	EM. VEH. B	#NAME?	B	Low Prio B PH	#NAME?
C	EM. VEH. C	#NAME?	C	Low Prio C PH	#NAME?
D	EM. VEH. D	#NAME?	D	Low Prio D PH	#NAME?
E	EXTRA 1	#NAME?	E	RESTRICTED	#NAME?
F	IC SELECT	#NAME?	F	EXTRA 2	#NAME?

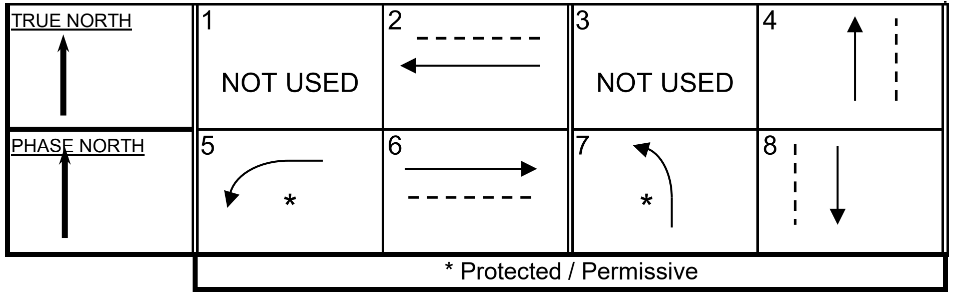
< C + 0 + E = 125 > < C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

PHASE DIAGRAM

E-W Street: #NAME? N-S Street : #NAME?



* Protected / Permissive

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Phase Bank 1 & Phase Functions

Controller: 134 Buena Vista & San Fernando

Phase Functions - Page 1 - 1-1	
Red Lock	________
Yellow Lock	________
Simultaneous Gap	________
Rest In Walk	________
Advance Walk	________
Flashing Walk	________
Max Extension	________
Red Rest	________
Dual Entry	_2_4_6_8
Sequential Timing	________
Inhibit Ped Reservice	_2_4_6_8
Delay Walk	________
Guaranteed Passage	________
Conditional Service	______7_

Phase Functions - Page 2 - 1-2	
Minimum Recall	_2_4_6_8
Ped Recall	________
Maximum Recall	________
Green Flash	________
Overlap Green Flash	________
Flashing Yellow Arrow for PPLT	________
Soft Recall	________
External Recall	________
Manual Control Calls	________
Fast Green Flash	________
Fast Overlap Green Flash	________
Semi-Actuated	________

Startup - 9-1	
Flash Start	0
All Red Start	6.0
Yellow Start Phases	________
First Green Phases	___4___8
Startup Vehicle Calls	12345678
Startup Ped Calls	_2_4_6_8

Detector Monitoring - 9-3	
Max On	21
Max Off	250
Chatter	255

Advance Warning Signs - 9-4		
	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Phase Timing - Bank 1 - 1-3-[1]								
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	6	6	6	10	6	6	10	10
Extension	2.0	4.0	2.0	5.0	2.0	4.0	3.5	4.0
Max	20	40	25	90	20	40	40	75
Max 2	20	40	25	40	20	40	25	60
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing - 1-4-[1]								
Yellow Change	3.6	4.0	3.6	4.0	3.6	4.0	4.0	4.0
Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
Pedestrian Timing - 1-5-[1]								
Walk	0	7	0	7	0	7	0	7
Pedestrian Change	0	27	0	26	0	25	0	26
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density - 1-6-[1]								
Type 3 Disconnect	0	25	0	35	0	25	0	25
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	2.0	3.0	2.0	4.0	2.0	3.0	2.5	3.0
Max Gap	2.0	5.0	2.0	6.0	2.0	5.0	4.5	5.0
Reduce Every	0.0	1.0	0.0	1.0	0.0	1.0	1.0	1.0
Alternate Timing - 1-7-[1]								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Configuration - 9-5			
Exclusive Phases	________	Permitted Phases	12345678
Protected/Permissive Phases	1___5___	Restricted Phases	________
Disable Phase Min. Yellow	________	Disable Overlap Min. Yellow	________
Free Lag Phases	_2_4_6_8	External Permit 1	________
External Lag Phases	_2_4_6_8	External Permit 2	________
Pedestrian Forceoff Phases	________	External Permit 3	________
Extra One	1_3_5___	Extra Two	___4__7_

1 = TBC Type 1
2 = (unused)
3 = Adjust Clock for Daylight Saving Time
4 = Terminate Ped. for EV Preempt
5 = QuicComm Extended Status
6 = International Style Pedestrian Change Interval
7 = (unused)
8 = Split Ring Operation

1 = Adv. Warn. Signs On During Min. Init.
2 = Siemens i2 Communications Protocol
3 = Disable Minimum Walk Check
4 = QuicNet System Communications
5 = Ignore Anti-Backup During Preempt
6 = Bridgeport Naztec TS 2 I/O Map
7 = Allow Remote Preemption Calls
8 = Caltrans Traf. Resp. FM Comm.

Phase Timing - Exclusive Pedestrian - 1-8	
Exclusive Ped Assignment	________
Exclusive Walk	0
Exclusive Pedestrian Change	0
Red Clear	0.0
Walk Output	0
Don't Walk Output	0

Clock Set - 9-6

Manual Operation - 9-7	
Manual Plan	0

1–9 = Coordination Plans
14 = Free
15 = Flash

Manual Offset	0

Software Flash - 9-8	
Flash Entry Phases	________
Flash Yellow Phases	________
Flash Yellow Overlaps	________
Flash Type	0

0 = All On/All Off (1-2-3-4-5-6-7-8, dark)
1 = Main/Side (1-2-5-6, 3-4-7-8)
2 = Odd/Even (1-3-5-7, 2-4-6-8)
3 = Ring Pairs (1-6, 4-7, 2-5, 3-8)

Misc - 9-9	
Keyboard Beep	N
Backlight Timeout	10
Soft Recall Delay	3.0
Red Revert	3.0
FYA Delay	0

Daylight Saving Time - 9-C	
Start Month	0
Start Week	0
End Month	0
End Week	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Phase Bank 1 & Phase Functions

Page 1 of 1

Controller: 128 Buena Vista St & Empire Ave

Phase Functions - Page 1 - 1-1

Red Lock	________
Yellow Lock	________
Simultaneous Gap	________
Rest In Walk	________
Advance Walk	________
Flashing Walk	________
Max Extension	________
Red Rest	________
Dual Entry	_2___6__
Sequential Timing	________
Inhibit Ped Reservice	________
Delay Walk	________
Guaranteed Passage	________
Conditional Service	________

Phase Functions - Page 2 - 1-2

Minimum Recall	___4___8
Ped Recall	___4___8
Maximum Recall	________
Green Flash	________
Overlap Green Flash	________
Flashing Yellow Arrow for PPLT	__3_5___
Soft Recall	________
External Recall	________
Manual Control Calls	________
Fast Green Flash	________
Fast Overlap Green Flash	________
Semi-Actuated	________

Startup - 9-1

Flash Start	0
All Red Start	6.0
Yellow Start Phases	________
First Green Phases	___4___8
Startup Vehicle Calls	12345678
Startup Ped Calls	_2_4_6_8

Detector Monitoring - 9-3

Max On	21
Max Off	250
Chatter	255

Advance Warning Signs - 9-4

	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Phase Timing - Bank 1 - 1-3-[1]

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	6	8	6	9	6	8	6	9
Extension	2.5	3.0	2.5	3.0	2.5	3.0	2.5	3.5
Max	30	60	20	60	20	60	20	60
Max 2	30	60	20	60	20	60	20	60
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing - 1-4-[1]								
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
Pedestrian Timing - 1-5-[1]								
Walk	0	7	0	7	0	7	0	7
Pedestrian Change	0	22	0	19	0	14	0	14
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density - 1-6-[1]								
Type 3 Disconnect	0	20	0	20	0	20	0	20
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5
Max Gap	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.5
Reduce Every	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0
Alternate Timing - 1-7-[1]								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Configuration - 9-5

Exclusive Phases	________	Permitted Phases	12345678
Protected/Permissive Phases	__3_5___	Restricted Phases	________
Disable Phase Min. Yellow	________	Disable Overlap Min. Yellow	________
Free Lag Phases	1__4_6_8	External Permit 1	________
External Lag Phases	1__4_6_8	External Permit 2	________
Pedestrian Forceoff Phases	________	External Permit 3	________
Extra One	1_3_5___	Extra Two	___4__7_

1 = TBC Type 1	1 = Adv. Warn. Signs On During Min. Init.
2 = (unused)	2 = Siemens i2 Communications Protocol
3 = Adjust Clock for Daylight Saving Time	3 = Disable Minimum Walk Check
4 = Terminate Ped. for EV Preempt	4 = QuicNet System Communications
5 = QuicComm Extended Status	5 = Ignore Anti-Backup During Preempt
6 = International Style Pedestrian Change Interval	6 = Bridgeport Naztec TS 2 I/O Map
7 = (unused)	7 = Allow Remote Preemption Calls
8 = Split Ring Operation	8 = Caltrans Traf. Resp. FM Comm.

Phase Timing - Exclusive Pedestrian - 1-8

Exclusive Ped Assignment	________
Exclusive Walk	0
Exclusive Pedestrian Change	0
Red Clear	0.0
Walk Output	0
Don't Walk Output	0

Clock Set - 9-6

Manual Operation - 9-7

Manual Plan	0

1–9 = Coordination Plans
14 = Free
15 = Flash

Manual Offset	0

Software Flash - 9-8

Flash Entry Phases	________
Flash Yellow Phases	________
Flash Yellow Overlaps	________
Flash Type	0

0 = All On/All Off (1-2-3-4-5-6-7-8, dark)
1 = Main/Side (1-2-5-6, 3-4-7-8)
2 = Odd/Even (1-3-5-7, 2-4-6-8)
3 = Ring Pairs (1-6, 4-7, 2-5, 3-8)

Misc - 9-9

Keyboard Beep	N
Backlight Timeout	10
Soft Recall Delay	3.0
Red Revert	3.0
FYA Delay	0

Daylight Saving Time - 9-C

Start Month	0
Start Week	0
End Month	0
End Week	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

System & Comm

Page 1 of 1

Controller: 136 Buena Vista St & Vanowen St

QuicNet® System	
System ID	**36**
Group	**#NAME?**
Field Master	**#NAME?**
N-S Street	**#NAME?**
E-W Street	**#NAME?**

Database Last Changed
4/13/2020 7:43

Prepared by:	RICHARD LOCKYER		Date:	**4/20/2020**
Checked by:	JONATHAN YEE		Date:	
Approved by:	JONATHAN YEE		Date:	
Completed by:			Date:	

2070L / 2070E
McCain 2033

6 OLA	2	2P	3	4	4P
🔴 16 🟡 17 🟢 18	🔴 12 🟡 13 🟢 15	🔴 10 ● 35 ⚪ 11	🔴 7 🟡 8 🟢 9	🔴 4 🟡 5 🟢 6	🔴 2 ● 37 ⚪ 3
5	**6 OLB**	**6P**	**7**	**8**	**8P**
🔴 32 🟡 33 🟢 34	🔴 29 🟡 30 🟢 31	🔴 27 🔴 36 ⚪ 28	● 24 ● 25 ● 26	● 21 ● 22 ● 23	🔴 19 ● 38 ⚪ 20
			OLC	**OLD**	
● 97 ● 98 ● 99	● 94 ● 95 ● 96	● 91 ● 101 ● 93	● 88 ● 89 ● 90	● 85 ● 86 ● 87	● 83 ● 100 ● 84

NOTES:

INSTALL 332L CABINET WITH MTS RR3 INTERFACE PANEL CONNECTED TO 2070 CONTROLLER USING C11 INTERFACE CABLE

CONFIRM PED YELLOW MOLEX PLUG IN OUTPUT FILE DISCONNECTED

INSTALL 2010ECLip CMU AND PROGRAM TO 172.16.123.36

QuicNet Timing Notes

Offset A = Northbound Bias
Offset B = Balanced
Offset C = Southbound Bias
10-29-2019 - Increased Ø3 All-Red to 1s, Buena Vista to 2s

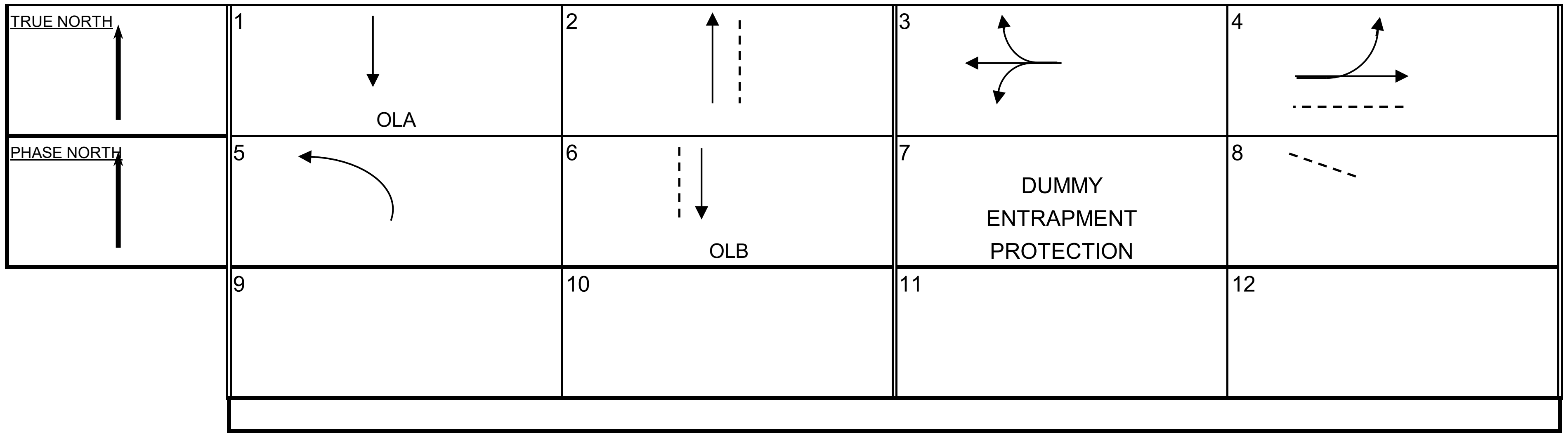
9600 Com CH 15

Ethernet Communications - 9-A	
Channel	**#NAME?**
NetMask	**255.255.255.0**
Gateway	**172.16.121.254**
Address	**14**
Area Number	**2**
Area Address	**36**

Serial Communications - 9-2-1	
Port Number	1
Address	14
Area Number	2
Area Address	36
Protocol	QuicComm
Baud Rate	9600
Data Bits	8-EVEN-1
Comm Timeout	5
RTS HOLD	6
CTS DELAY	8

PHASE DIAGRAM

E-W Street: **#NAME?** **N-S Street :** **#NAME?**



CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Coordination

Controller: 138 Buena Vista St & Victory Bl

Coordination - General - 3-1	
Transition Type	**1.3**
0 = Shortway	
1 = Dwell	
2 = Shorten	
Tenths Digit: # Cycles to get in step (1–4)	
Coordination Extra	**_2______**
1 = Programmed Walk Time for Sync Phases	
2 = Always Terminate Sync Phase Peds	
3 = Floating Forceoffs	
4 = Reservice for Ped Calls	
5 = Start of Green Offset Reference	
8 = Maintain Coord. During Spec. Event Preempt	

Coordination - Phase Minimums - 3-1

Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
12	**30**	**12**	**29**	**12**	**27**	**12**	**28**

Coordination - Cycle, Offsets, & Forceoffs - 3-2-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle	**0**	**0**	**100**	**110**	**120**	**130**	**140**	**0**	**0**
Offset 1	**0**	**0**	**4**	**60**	**55**	**50**	**65**	**0**	**0**
Offset 2	**0**	**0**	**4**	**60**	**55**	**50**	**50**	**0**	**0**
Offset 3	**0**	**0**	**4**	**60**	**55**	**50**	**55**	**0**	**0**
Zone Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ring Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hold Release	**0**	**0**	**255**	**255**	**255**	**255**	**255**	**0**	**0**
Ped. Adjust	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 1	**0**	**0**	**15**	**19**	**21**	**23**	**25**	**0**	**0**
Forceoff Phase 2	**0**	**0**	**50**	**54**	**58**	**62**	**66**	**0**	**0**
Forceoff Phase 3	**0**	**0**	**65**	**77**	**85**	**93**	**106**	**0**	**0**
Forceoff Phase 4	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 5	**0**	**0**	**15**	**19**	**21**	**23**	**25**	**0**	**0**
Forceoff Phase 6	**0**	**0**	**50**	**54**	**58**	**62**	**66**	**0**	**0**
Forceoff Phase 7	**0**	**0**	**65**	**77**	**85**	**93**	**106**	**0**	**0**
Forceoff Phase 8	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Coordination - Permissives & Phase Sequences - 3-3-[Plan Number] and 3-4-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Perm 1 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - Veh Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 1 - Ped Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 2 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 2 - Ped Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Ped Phases	________	________	________	________	________	________	________	________	________
Max Inhibit Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Max Recall Phases	________	________	________	________	________	________	________	________	________
Reservice Time	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reservice Phases	________	________	________	________	________	________	________	________	________
Sync Phases	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**
Lag Phases	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**
Pre-Timed Phases	________	________	________	________	________	________	________	________	________

Coordination - Adaptive Parameters - 3-5	
QuicTrac Max Cycle Length	**32**
QuicTrac Max Cycle Length Change	**110**

Coordination - Adaptive Operation - 3-6

Adaptive Operation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

0 = Non-Adaptive 1 = Adaptive

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Coordination

Controller: 125 Buena Vista St & Burbank Bl

Coordination - General - 3-1

Transition Type	**1.3**

0 = Shortway
1 = Dwell
2 = Shorten
Tenths Digit: # Cycles to get in step (1–4)

Coordination Extra	**_2______**

1 = Programmed Walk Time for Sync Phases
2 = Always Terminate Sync Phase Peds
3 = Floating Forceoffs
4 = Reservice for Ped Calls
5 = Start of Green Offset Reference
8 = Maintain Coord. During Spec. Event Preempt

Coordination - Phase Minimums - 3-1

Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
15	**27**	**15**	**27**	**15**	**28**	**15**	**27**

Coordination - Cycle, Offsets, & Forceoffs - 3-2-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle	**0**	**0**	**100**	**110**	**120**	**130**	**140**	**0**	**0**
Offset 1	**0**	**0**	**55**	**7**	**10**	**5**	**20**	**0**	**0**
Offset 2	**0**	**0**	**55**	**7**	**10**	**5**	**5**	**0**	**0**
Offset 3	**0**	**0**	**55**	**7**	**10**	**5**	**115**	**0**	**0**
Zone Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ring Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hold Release	**0**	**0**	**255**	**255**	**255**	**255**	**255**	**0**	**0**
Ped. Adjust	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 1	**0**	**0**	**15**	**19**	**21**	**21**	**21**	**0**	**0**
Forceoff Phase 2	**0**	**0**	**50**	**54**	**58**	**60**	**60**	**0**	**0**
Forceoff Phase 3	**0**	**0**	**65**	**77**	**85**	**93**	**103**	**0**	**0**
Forceoff Phase 4	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 5	**0**	**0**	**15**	**19**	**21**	**21**	**21**	**0**	**0**
Forceoff Phase 6	**0**	**0**	**50**	**54**	**58**	**60**	**60**	**0**	**0**
Forceoff Phase 7	**0**	**0**	**65**	**77**	**85**	**93**	**103**	**0**	**0**
Forceoff Phase 8	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Coordination - Permissives & Phase Sequences - 3-3-[Plan Number] and 3-4-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Perm 1 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - Veh Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 1 - Ped Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 2 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 2 - Ped Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Ped Phases	________	________	________	________	________	________	________	________	________
Max Inhibit Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Max Recall Phases	________	________	________	________	________	________	________	________	________
Reservice Time	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reservice Phases	________	________	________	________	________	________	________	________	________
Sync Phases	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**
Lag Phases	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**
Pre-Timed Phases	________	________	________	________	________	________	________	________	________

Coordination - Adaptive Parameters - 3-5

QuicTrac Max Cycle Length	**255**
QuicTrac Max Cycle Length Change	**15**

Coordination - Adaptive Operation - 3-6

Adaptive Operation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

0 = Non-Adaptive 1 = Adaptive

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Coordination

Controller: 131 Buena Vista St & Magnolia Bl

Coordination - General - 3-1	
Transition Type	**1.3**
0 = Shortway	
1 = Dwell	
2 = Shorten	
Tenths Digit: # Cycles to get in step (1–4)	
Coordination Extra	**_2______**
1 = Programmed Walk Time for Sync Phases	
2 = Always Terminate Sync Phase Peds	
3 = Floating Forceoffs	
4 = Reservice for Ped Calls	
5 = Start of Green Offset Reference	
8 = Maintain Coord. During Spec. Event Preempt	

Coordination - Phase Minimums - 3-1

Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
15	**27**	**15**	**27**	**15**	**27**	**15**	**26**

Coordination - Cycle, Offsets, & Forceoffs - 3-2-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle	**0**	**0**	**100**	**110**	**120**	**130**	**140**	**0**	**0**
Offset 1	**0**	**0**	**91**	**62**	**72**	**75**	**105**	**0**	**0**
Offset 2	**0**	**0**	**91**	**62**	**72**	**75**	**75**	**0**	**0**
Offset 3	**0**	**0**	**91**	**62**	**72**	**75**	**55**	**0**	**0**
Zone Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ring Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hold Release	**0**	**0**	**255**	**255**	**255**	**255**	**255**	**0**	**0**
Ped. Adjust	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 1	**0**	**0**	**15**	**19**	**21**	**21**	**21**	**0**	**0**
Forceoff Phase 2	**0**	**0**	**50**	**54**	**58**	**60**	**60**	**0**	**0**
Forceoff Phase 3	**0**	**0**	**65**	**77**	**85**	**93**	**103**	**0**	**0**
Forceoff Phase 4	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 5	**0**	**0**	**15**	**19**	**21**	**21**	**21**	**0**	**0**
Forceoff Phase 6	**0**	**0**	**50**	**54**	**58**	**60**	**60**	**0**	**0**
Forceoff Phase 7	**0**	**0**	**65**	**77**	**85**	**93**	**103**	**0**	**0**
Forceoff Phase 8	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Coordination - Permissives & Phase Sequences - 3-3-[Plan Number] and 3-4-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Perm 1 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - Veh Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 1 - Ped Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 2 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 2 - Ped Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Ped Phases	________	________	________	________	________	________	________	________	________
Max Inhibit Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Max Recall Phases	________	________	________	________	________	________	________	________	________
Reservice Time	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reservice Phases	________	________	________	________	________	________	________	________	________
Sync Phases	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**
Lag Phases	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**	**_2_4_6_8**
Pre-Timed Phases	________	________	________	________	________	________	________	________	________

Coordination - Adaptive Parameters - 3-5	
QuicTrac Max Cycle Length	**255**
QuicTrac Max Cycle Length Change	**15**

Coordination - Adaptive Operation - 3-6

Adaptive Operation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

0 = Non-Adaptive 1 = Adaptive

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Phase Bank 1 & Phase Functions

Controller: 132 Buena Vista St & Olive Ave

Phase Functions - Page 1 - 1-1	
Red Lock	________
Yellow Lock	________
Simultaneous Gap	________
Rest In Walk	________
Advance Walk	________
Flashing Walk	________
Max Extension	________
Red Rest	________
Dual Entry	_2___6__
Sequential Timing	________
Inhibit Ped Reservice	________
Delay Walk	________
Guaranteed Passage	________
Conditional Service	________

Phase Functions - Page 2 - 1-2	
Minimum Recall	_2_4_6_8
Ped Recall	___4___8
Maximum Recall	________
Green Flash	________
Overlap Green Flash	________
Flashing Yellow Arrow for PPLT	__3___7_
Soft Recall	________
External Recall	________
Manual Control Calls	________
Fast Green Flash	________
Fast Overlap Green Flash	________
Semi-Actuated	________

Startup - 9-1	
Flash Start	0
All Red Start	6.0
Yellow Start Phases	________
First Green Phases	___4___8
Startup Vehicle Calls	12345678
Startup Ped Calls	_2_4_6_8

Detector Monitoring - 9-3	
Max On	21
Max Off	250
Chatter	255

Advance Warning Signs - 9-4		
	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Phase Timing - Bank 1 - 1-3-[1]	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	6	8	6	8	6	8	6	8
Extension	2.5	3.0	2.5	3.0	2.5	3.0	2.5	3.0
Max	25	60	25	60	25	60	25	60
Max 2	25	60	25	60	25	60	25	60
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing - 1-4-[1]								
Yellow Change	3.6	4.0	4.0	4.0	3.6	4.0	4.0	4.0
Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
Pedestrian Timing - 1-5-[1]								
Walk	0	7	0	7	0	7	0	7
Pedestrian Change	0	18	0	18	0	21	0	22
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density - 1-6-[1]								
Type 3 Disconnect	0	0	0	20	0	0	0	20
Add per Vehicle	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0
Max Added Initial	0	20	0	0	0	20	0	0
Min Gap	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Max Gap	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.0
Reduce Every	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0
Alternate Timing - 1-7-[1]								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Configuration - 9-5			
Exclusive Phases	________	Permitted Phases	12345678
Protected/Permissive Phases	1_3_5_7_	Restricted Phases	________
Disable Phase Min. Yellow	________	Disable Overlap Min. Yellow	________
Free Lag Phases	_2_4_6_8	External Permit 1	________
External Lag Phases	_2_4_6_8	External Permit 2	________
Pedestrian Forceoff Phases	________	External Permit 3	________
Extra One	1_3_5___	Extra Two	___4__7_
1 = TBC Type 1		1 = Adv. Warn. Signs On During Min. Init.	
2 = (unused)		2 = Siemens i2 Communications Protocol	
3 = Adjust Clock for Daylight Saving Time		3 = Disable Minimum Walk Check	
4 = Terminate Ped. for EV Preempt		4 = QuicNet System Communications	
5 = QuicComm Extended Status		5 = Ignore Anti-Backup During Preempt	
6 = International Style Pedestrian Change Interval		6 = Bridgeport Naztec TS 2 I/O Map	
7 = (unused)		7 = Allow Remote Preemption Calls	
8 = Split Ring Operation		8 = Caltrans Traf. Resp. FM Comm.	

Phase Timing - Exclusive Pedestrian - 1-8	
Exclusive Ped Assignment	________
Exclusive Walk	0
Exclusive Pedestrian Change	0
Red Clear	0.0
Walk Output	0
Don't Walk Output	0

Clock Set - 9-6

Manual Operation - 9-7	
Manual Plan	0
1–9 = Coordination Plans	
14 = Free	
15 = Flash	
Manual Offset	0

Software Flash - 9-8	
Flash Entry Phases	________
Flash Yellow Phases	________
Flash Yellow Overlaps	________
Flash Type	0
0 = All On/All Off (1-2-3-4-5-6-7-8, dark)	
1 = Main/Side (1-2-5-6, 3-4-7-8)	
2 = Odd/Even (1-3-5-7, 2-4-6-8)	
3 = Ring Pairs (1-6, 4-7, 2-5, 3-8)	

Misc - 9-9	
Keyboard Beep	N
Backlight Timeout	10
Soft Recall Delay	3.0
Red Revert	3.0
FYA Delay	0

Daylight Saving Time - 9-C	
Start Month	0
Start Week	0
End Month	0
End Week	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Coordination

Controller: 101 Alameda Ave & Buena Vista St

Coordination - General - 3-1	
Transition Type	**1.3**
0 = Shortway	
1 = Dwell	
2 = Shorten	
Tenths Digit: # Cycles to get in step (1–4)	
Coordination Extra	**_2______**
1 = Programmed Walk Time for Sync Phases	
2 = Always Terminate Sync Phase Peds	
3 = Floating Forceoffs	
4 = Reservice for Ped Calls	
5 = Start of Green Offset Reference	
8 = Maintain Coord. During Spec. Event Preempt	

Coordination - Phase Minimums - 3-1

Ph 1	Ph 2	Ph 3	Ph 4	Ph 5	Ph 6	Ph 7	Ph 8
15	**28**	**15**	**29**	**15**	**28**	**15**	**28**

Coordination - Cycle, Offsets, & Forceoffs - 3-2-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Cycle	**0**	**0**	**100**	**110**	**120**	**130**	**140**	**0**	**0**
Offset 1	**0**	**0**	**22**	**50**	**82**	**80**	**70**	**0**	**0**
Offset 2	**0**	**0**	**22**	**50**	**82**	**80**	**70**	**0**	**0**
Offset 3	**0**	**0**	**22**	**50**	**82**	**80**	**70**	**0**	**0**
Zone Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ring Offset	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Hold Release	**0**	**0**	**255**	**255**	**255**	**255**	**255**	**0**	**0**
Ped. Adjust	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 1	**0**	**0**	**51**	**59**	**58**	**65**	**70**	**0**	**0**
Forceoff Phase 2	**0**	**0**	**35**	**41**	**40**	**45**	**50**	**0**	**0**
Forceoff Phase 3	**0**	**0**	**67**	**74**	**80**	**85**	**95**	**0**	**0**
Forceoff Phase 4	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Forceoff Phase 5	**0**	**0**	**16**	**17**	**18**	**20**	**20**	**0**	**0**
Forceoff Phase 6	**0**	**0**	**51**	**59**	**58**	**65**	**70**	**0**	**0**
Forceoff Phase 7	**0**	**0**	**67**	**74**	**81**	**90**	**97**	**0**	**0**
Forceoff Phase 8	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Coordination - Permissives & Phase Sequences - 3-3-[Plan Number] and 3-4-[Plan Number]

	Plan 1	Plan 2	Plan 3	Plan 4	Plan 5	Plan 6	Plan 7	Plan 8	Plan 9
Perm 1 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 1 - Veh Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 1 - Ped Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Perm 2 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 2 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 2 - Ped Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Begin	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - End	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Perm 3 - Veh Phases	________	________	________	________	________	________	________	________	________
Perm 3 - Ped Phases	________	________	________	________	________	________	________	________	________
Max Inhibit Phases	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**	**12345678**
Max Recall Phases	________	________	________	________	________	________	________	________	________
Reservice Time	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Reservice Phases	________	________	________	________	________	________	________	________	________
Sync Phases	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**	**___4___8**
Lag Phases	**1__4_6_8**	**1__4_6_8**	**1__4_6_8**	**1__4_6_8**	**1__4_6_8**	**1__4_6_8**	**1__4_6_8**	**1__4_6_8**	**1__4_6_8**
Pre-Timed Phases	________	________	________	________	________	________	________	________	________

Coordination - Adaptive Parameters - 3-5	
QuicTrac Max Cycle Length	**255**
QuicTrac Max Cycle Length Change	**15**

Coordination - Adaptive Operation - 3-6

Adaptive Operation	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

0 = Non-Adaptive 1 = Adaptive

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Phase Bank 1 & Phase Functions

Controller: 133 Buena Vista St & Riverside

Phase Functions - Page 1 - 1-1	
Red Lock	1___5__8
Yellow Lock	1___5__8
Simultaneous Gap	________
Rest In Walk	________
Advance Walk	________
Flashing Walk	________
Max Extension	________
Red Rest	________
Dual Entry	_2___6__
Sequential Timing	________
Inhibit Ped Reservice	________
Delay Walk	________
Guaranteed Passage	________
Conditional Service	________

Phase Functions - Page 2 - 1-2	
Minimum Recall	_2___67_
Ped Recall	________
Maximum Recall	________
Green Flash	________
Overlap Green Flash	________
Flashing Yellow Arrow for PPLT	________
Soft Recall	________
External Recall	________
Manual Control Calls	________
Fast Green Flash	________
Fast Overlap Green Flash	________
Semi-Actuated	________

Startup - 9-1	
Flash Start	0
All Red Start	6.0
Yellow Start Phases	_______8
First Green Phases	_2___6__
Startup Vehicle Calls	12__5678
Startup Ped Calls	_____6_8

Detector Monitoring - 9-3	
Max On	21
Max Off	250
Chatter	255

Advance Warning Signs - 9-4		
	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Phase Timing - Bank 1 - 1-3-[1]	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	10	10	0	0	10	10	10	10
Extension	2.5	3.5	0.0	0.0	2.5	3.5	3.5	3.5
Max	30	50	0	0	30	50	50	50
Max 2	30	50	0	0	30	50	50	50
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing - 1-4-[1]								
Yellow Change	3.6	4.5	3.0	3.0	3.6	4.5	4.5	4.5
Red Clear	1.0	2.0	0.0	0.0	1.0	2.0	2.0	2.0
Pedestrian Timing - 1-5-[1]								
Walk	0	0	0	0	0	7	0	7
Pedestrian Change	0	0	0	0	0	16	0	16
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density - 1-6-[1]								
Type 3 Disconnect	0	20	0	0	0	20	20	20
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	1.5	2.5	0.0	0.0	1.5	2.5	2.5	2.5
Max Gap	3.5	4.5	0.0	0.0	3.5	4.5	4.5	4.5
Reduce Every	0.7	0.7	0.0	0.0	0.7	0.7	0.7	0.7
Alternate Timing - 1-7-[1]								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Configuration - 9-5			
Exclusive Phases	________	Permitted Phases	12__5678
Protected/Permissive Phases	________	Restricted Phases	________
Disable Phase Min. Yellow	________	Disable Overlap Min. Yellow	________
Free Lag Phases	_2_4_6_8	External Permit 1	________
External Lag Phases	_2_4_6_8	External Permit 2	________
Pedestrian Forceoff Phases	________	External Permit 3	________
Extra One	1_3_5___	Extra Two	___4__7_

1 = TBC Type 1
2 = (unused)
3 = Adjust Clock for Daylight Saving Time
4 = Terminate Ped. for EV Preempt
5 = QuicComm Extended Status
6 = International Style Pedestrian Change Interval
7 = (unused)
8 = Split Ring Operation

1 = Adv. Warn. Signs On During Min. Init.
2 = Siemens i2 Communications Protocol
3 = Disable Minimum Walk Check
4 = QuicNet System Communications
5 = Ignore Anti-Backup During Preempt
6 = Bridgeport Naztec TS 2 I/O Map
7 = Allow Remote Preemption Calls
8 = Caltrans Traf. Resp. FM Comm.

Phase Timing - Exclusive Pedestrian - 1-8	
Exclusive Ped Assignment	________
Exclusive Walk	0
Exclusive Pedestrian Change	0
Red Clear	0.0
Walk Output	0
Don't Walk Output	0

Clock Set - 9-6

Manual Operation - 9-7	
Manual Plan	0

1–9 = Coordination Plans
14 = Free
15 = Flash

Manual Offset	0

Software Flash - 9-8	
Flash Entry Phases	________
Flash Yellow Phases	________
Flash Yellow Overlaps	________
Flash Type	0

0 = All On/All Off (1-2-3-4-5-6-7-8, dark)
1 = Main/Side (1-2-5-6, 3-4-7-8)
2 = Odd/Even (1-3-5-7, 2-4-6-8)
3 = Ring Pairs (1-6, 4-7, 2-5, 3-8)

Misc - 9-9	
Keyboard Beep	N
Backlight Timeout	10
Soft Recall Delay	3.0
Red Revert	3.0
FYA Delay	0

Daylight Saving Time - 9-C	
Start Month	0
Start Week	0
End Month	0
End Week	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing /
Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER		Date:	4/20/2020
Checked by:	JONATHAN YEE		Date:	
Approved by:	JONATHAN YEE		Date:	
Completed by:			Date:	

148 Burbank @ Victory P&VictoryB
(Intersection Name)

NOTES:

	Interval	PHASE 1	2	3	4	5	6	7	8
0	WALK	0	7	0	0	0	7	0	7
1	DONT WALK	0	20	0	0	0	23	0	29
2	MIN INITIAL	6	10	10	1	6	10	10	6
3	TYPE 3 LIMIT	0	20	20	0	0	20	20	0
4	ADD PER VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	VEH EXT	2.5	3.0	3.0	0.0	2.0	3.0	3.0	0.0
6	MAX GAP	3.0	4.0	3.5	0.0	2.0	4.0	3.5	0.0
7	MIN GAP	2.0	2.5	2.5	0.0	2.0	2.5	2.5	0.0
8	MAX LIMIT	30	65	50	1	30	65	40	36
9	MAXIMUM 2	30	65	50	1	30	65	40	36
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	0.5	1.0	1.0	0.0	0.0	0.7	0.7	0.0
E	YELLOW	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
F	RED CLEAR	1.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0

PHASE BANK 1 < C + 0 + F = 1 >

ALTERNATE TIMING

		9 Maximum Initial	A Alternate Walk	B Alternate FDW	C Alternate Initial	D Alternate Extension
1	Ph. 1	0	0	0	0	0.0
2	Ph. 2	0	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	0	0.0
6	Ph. 6	0	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0

START / REVERT TIMES

ALL RED STRT: **<F/1 + C + 0>** = 6.0
FLASH START: **<F/1 + 0 + E>** = 0
RED REVERT: **<F/1 + 0 + F>** = 5.0

PREEMPT

	E
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

PHASE FUNCTION FLAGS

	Column F	
0	PERMIT	123_5678
1	RED LOCK	________
2	YELLOW LOCK	________
3	VEH MIN CALL	_23__6__
4	PED RECALL	________
5	*View Set Peds*	_2___6_8
6	REST IN WALK	________
7	RED REST	________
8	DOUBLE ENTRY	__3____8
9	VEH MAX CALL	________
A	SOFT RECALL	________
B	MAXIMUM 2	________
C	COND SERVICE	________
D	MAN CONT CALL	________
E	YELLOW START	________
F	FIRST PHASES	_2___6__

< C + 0 + F = 1 >

SPECIALS

	Column F	
0	FAST GRN FLH	________
1	GREEN FLSH	________
2	FLASH WALK	________
3	GUAR PASS	________
4	SIMUL GAP	________
5	SEQ TIMING	________
6	ADV WALK	________
7	DELAY WALK	________
8	EXT RECALL	________
9	Sart O'LapGreen	________
A	MAX EXTEN	________
B	INH PED RSRV	________
C	SEMI ACTUA.	________
D	Sart O'LapYellow	________
E	STRT VEH CALL	123_567_
F	STRT PED CALL	_2___6_8

Specials <C + 0 + F = 2>

CNTRLR INTERVALS
0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 1
ZONE NUMBER:
< C/0 + 0 + 1 > = 1
AREA NUMBER:
< C/0 + 0 + 2 > = 2
AREA ADDRESS:
< C/0 + 0 + 3 > = 48
QUICNET CHANNEL:
UDP:8022:172.16.121.48

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >

EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

To Enable "E" Page, Set < F/1 + 9 + E = Not Zero **>**

CONTROLLER CONFIGURATION FLAGS

	Column E	
0	EXCLUSIVE	______7_
1	RR 1 CLEAR	________
2	RR 2 CLEAR	________
3	RR 2 LTD SRV	________
4	PROT/PERM	________
5	FLH TO PREMT	________
6	FLASH ENTRY	________
7	DSABL MIN YEL	________
8	DSABL OVP YEL	________
9	OVP FLH YEL	________
A	EM. VEH. A	________
B	EM. VEH. B	________
C	EM. VEH. C	________
D	EM. VEH. D	________
E	EXTRA 1	1_3_5___
F	IC SELECT	_2______

< C + 0 + E = 125 >

	Column F	
0		
1	EXT PERMIT 1	________
2	EXT PERMIT 2	________
3	EXCLU PED	________
4	Preemp Non Lock	________
5	PED 2 P OUT	_2______
6	PED 6 P OUT	_____6__
7	PED 4 P OUT	________
8	PED 8 P OUT	_______8
9	FLH YELLOW	________
A	Low Prio A PH	________
B	Low Prio B PH	________
C	Low Prio C PH	________
D	Low Prio D PH	________
E	RESTRICTED	________
F	EXTRA 2	___4____

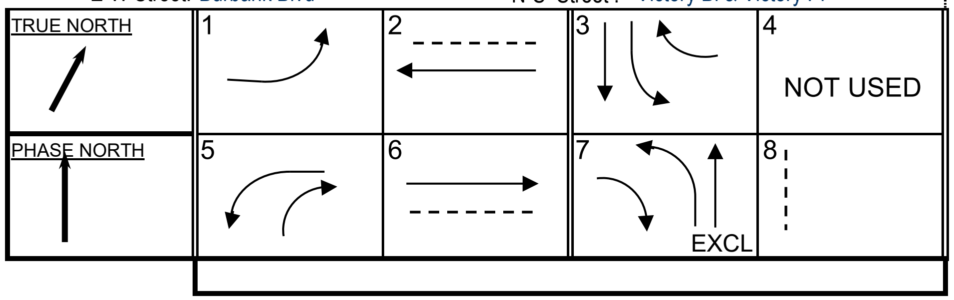
< C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

PHASE DIAGRAM

E-W Street: Burbank Blvd N-S Street : Victory Bl & Victory Pl



CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing / Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER		Date:	5/5/2020
Checked by:	JONATHAN YEE		Date:	
Approved by:	JONATHAN YEE		Date:	
Completed by:			Date:	

211 Magnolia Blvd & Victory Blvd
(Intersection Name)

NOTES:

	Interval	PHASE 1	2	3	4	5	6	7	8
0	WALK	0	7	0	7	0	7	0	7
1	DONT WALK	0	16	0	14	0	16	0	15
2	MIN INITIAL	6	6	6	6	6	6	6	6
3	TYPE 3 LIMIT	0	20	0	20	0	20	0	20
4	ADD PER VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	VEH EXT	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0
6	MAX GAP	3.5	4.0	3.5	4.0	3.5	4.0	3.5	4.0
7	MIN GAP	1.5	2.0	1.5	2.0	1.5	2.0	1.5	2.0
8	MAX LIMIT	45	60	35	70	45	60	35	70
9	MAXIMUM 2	45	60	35	70	45	60	35	70
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	0.5	0.7	0.5	0.7	0.5	0.7	0.5	0.7
E	YELLOW	3.6	4.0	3.6	4.0	3.6	4.0	3.6	4.0
F	RED CLEAR	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0

PHASE BANK 1 **< C + 0 + F = 1 >**

ALTERNATE TIMING

		9	A	B	C	D
1	Ph. 1	0	0	0	0	0.0
2	Ph. 2	0	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	0	0.0
6	Ph. 6	0	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0
		Maximum Initial	Alternate Walk	Alternate FDW	Alternate Initial	Alternate Extension

PREEMPT

	E
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

START / REVERT TIMES

ALL RED STRT: **<F/1 + C + 0>** = 6.0
FLASH START: **<F/1 + 0 + E>** = 0
RED REVERT: **<F/1 + 0 + F>** = 3.0

PHASE FUNCTION FLAGS
Column F

0	PERMIT	12345678
1	RED LOCK	
2	YELLOW LOCK	
3	VEH MIN CALL	_2___6__
4	PED RECALL	_2___6__
5	*View Set Peds*	_2_4_6_8
6	REST IN WALK	
7	RED REST	
8	DOUBLE ENTRY	___4___8
9	VEH MAX CALL	
A	SOFT RECALL	
B	MAXIMUM 2	
C	COND SERVICE	
D	MAN CONT CALL	
E	YELLOW START	
F	FIRST PHASES	_2___6__

< C + 0 + F = 1 >

SPECIALS
Column F

0	FAST GRN FLH	
1	GREEN FLSH	
2	FLASH WALK	
3	GUAR PASS	
4	SIMUL GAP	
5	SEQ TIMING	
6	ADV WALK	
7	DELAY WALK	
8	EXT RECALL	
9	Sart O'LapGreen	
A	MAX EXTEN	
B	INH PED RSRV	
C	SEMI ACTUA.	
D	Sart O'LapYellow	
E	STRT VEH CALL	12345678
F	STRT PED CALL	_2_4_6_8

Specials <C + 0 + F = 2>

CNTRLR INTERVALS
0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 24

ZONE NUMBER:
< C/0 + 0 + 1 > = 1

AREA NUMBER:
< C/0 + 0 + 2 > = 2

AREA ADDRESS:
< C/0 + 0 + 3 > = 111

QUICNET CHANNEL:
UDP:8022:172.16.121.111

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >

EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

To Enable "E" Page, Set < F/1 + 9 + E = Not Zero **>**

CONTROLLER CONFIGURATION FLAGS

Column E

0	EXCLUSIVE	
1	RR 1 CLEAR	
2	RR 2 CLEAR	
3	RR 2 LTD SRV	
4	PROT/PERM	1_3_5_7_
5	FLH TO PREMT	
6	FLASH ENTRY	
7	DSABL MIN YEL	
8	DSABL OVP YEL	
9	OVP FLH YEL	
A	EM. VEH. A	
B	EM. VEH. B	
C	EM. VEH. C	
D	EM. VEH. D	
E	EXTRA 1	1_3_5___
F	IC SELECT	_2______

< C + 0 + E = 125 >

Column F

0		
1	EXT PERMIT 1	
2	EXT PERMIT 2	
3	EXCLU PED	
4	Preemp Non Lock	
5	PED 2 P OUT	_2______
6	PED 6 P OUT	_____6__
7	PED 4 P OUT	___4____
8	PED 8 P OUT	_______8
9	FLH YELLOW	
A	Low Prio A PH	
B	Low Prio B PH	
C	Low Prio C PH	
D	Low Prio D PH	
E	RESTRICTED	
F	EXTRA 2	___4____

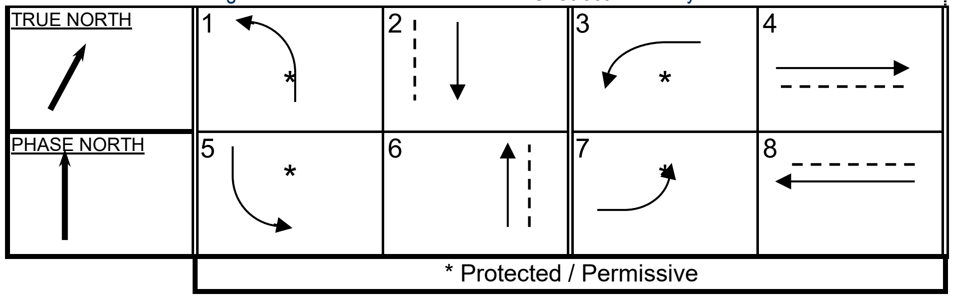
< C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

PHASE DIAGRAM

E-W Street: Magnolia Blvd N-S Street : Victory Blvd



* Protected / Permissive

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Coordination Timing
BiTrans 233RV2.x

221 Olive Ave & Victory St			
Prepared by:	RICHARD LOCKYER	Date	05/05/20
Checked by:	JONATHAN YEE	Date	

		PLAN NUMBER								
		1	2	3	4	5	6	7	8	9
0	CYCLE	0	0	100	110	120	130	140	0	0
1	FORCE 1	0	0	65	76	85	93	99	0	0
2	FORCE 2	0	0	0	0	0	0	0	0	0
3	FORCE 3	0	0	15	19	21	23	25	0	0
4	FORCE 4	0	0	50	54	58	62	64	0	0
5	FORCE 5	0	0	65	76	85	93	99	0	0
6	FORCE 6	0	0	0	0	0	0	0	0	0
7	FORCE 7	0	0	15	19	21	23	25	0	0
8	FORCE 8	0	0	50	54	58	62	64	0	0
9	RING OFFSET	0	0	0	0	0	0	0	0	0
A	OFFSET 1	0	0	56	104	46	79	20	0	0
B	OFFSET 2	0	0	56	104	46	79	79	0	0
C	OFFSET 3	0	0	56	104	46	79	84	0	0
D	PERM 1 END	0	0	0	0	0	0	0	0	0
E	HOLD RELEASE	0	0	255	255	255	255	255	0	0
F	ZONE OFFSET	0	0	0	0	0	0	0	0	0

< C + 0 + C = 1 >

	COLUMN E	1	2	3	4	5	6	7	8		COLUMN F	1	2	3	4	5	6	7	8
0										0	LAG FREE	_	2	_	4	_	6	_	8
1	SYNC Plan 1	_	2	_	_	_	6	_	_	1	LAG PLAN 1	_	2	_	4	_	6	_	8
2	SYNC Plan 2	_	2	_	_	_	6	_	_	2	LAG PLAN 2	_	2	_	4	_	6	_	8
3	SYNC Plan 3	_	2	_	_	_	6	_	_	3	LAG PLAN 3	_	2	_	4	_	6	_	8
4	SYNC Plan 4	_	2	_	_	_	6	_	_	4	LAG PLAN 4	_	2	_	4	_	6	_	8
5	SYNC Plan 5	_	2	_	_	_	6	_	_	5	LAG PLAN 5	_	2	_	4	_	6	_	8
6	SYNC Plan 6	_	2	_	_	_	6	_	_	6	LAG PLAN 6	_	2	_	4	_	6	_	8
7	SYNC Plan 7	_	2	_	_	_	6	_	_	7	LAG PLAN 7	_	2	_	4	_	6	_	8
8	SYNC Plan 8	_	2	_	_	_	6	_	_	8	LAG PLAN 8	_	2	_	4	_	6	_	8
9	SYNC Plan 9	_	2	_	_	_	6	_	_	9	LAG PLAN 9	_	2	_	4	_	6	_	8
A	NEMA SYNC	_	_	_	_	_	_	_	_	A	EXT. LAG	_	_	_	_	_	_	_	_
B	NEMA HOLD	_	_	_	_	_	_	_	_	B	LAG HOLD	_	_	_	_	_	_	_	_
C										C									
D										D									
E	COORD EXTRA	_	2	_	_	_	_	_	_	E									
F										F									

COORDINATION EXTRA
1 = Programmed Walk Time
2 = FDW Begins at Sync Phase
Force Off minus FDW

< C + 0 + C = 1 >

COLUMN 2	
Coord Min.	
1	12
2	33
3	12
4	32
5	12
6	33
7	12
8	33

< C + 0 + C = 5 >

TRANSITION TYPE:
< C/5 + 1 + 9 > = 1.3

0.X = SHORTWAY
1.X = DWELL
X.1 THRU .X4 = NUMBER OF CYCLES WHEN LENGTHENING

LAG HOLD PHASES:
< C/5 + 1 + A > = ______

IEN STATUS: ON =/= 0
IEN Status < C/5 + 1 + B > = 1

LOCAL ALARM DISABLE
< C/5 + F + 0 > = ______

7 - Wire Master
Synch Time < C/5 + 1 + C > = 0.0

ROW	Plan # -->	1	2	3	4	5	6	7	8	9	ROW
0	PED ADJUST	0	0	0	0	0	0	0	0	0	0
1	PERM 2 START	0	0	0	0	0	0	0	0	0	1
2	PERM 2 END	0	0	0	0	0	0	0	0	0	2
3	PERM 3 START	0	0	0	0	0	0	0	0	0	3
4	PERM 3 END	0	0	0	0	0	0	0	0	0	4
5	RSRVC TIME	0	0	0	0	0	0	0	0	0	5
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
6	RSRVC PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7											7
8	PRETIMED PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	8
9	MAX RECALL	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	PERM 1 VEH	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	A
B	PERM 1 PED	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	B
C	PERM 2 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	C
D	PERM 2 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	D
E	PERM 3 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	E
F	PERM 3 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	F

COORDINATION PAGE 2 < C + 0 + C = 2 >

CURRENT DATE/TIME
(HR-MIN-DOW) = <8/0 + 0>
(Day-YR-MO) = <8/0 + 1>
(MN-S-1/10SEC) = <8/0 + F>

Daylight Savings Time

Begin Month	<C/5+2+A>	0
Begin Week	<C/5+2+B>	0
End Month	<C/5+2+C>	0
End Week	<C/5+2+D>	0

Advance Warning Beacon - Sign 1

Time Before Yellow	<F/1+C+E>	0.0
Phase Number	<F/1+C+F>	0

Advance Warning Beacon - Sign 2

Time Before Yellow	<F/1+D+E>	0.0
Phase Number	<F/1+D+F>	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing / Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER	Date:	4/16/2020
Checked by:	JONATHAN YEE	Date:	
Approved by:	JONATHAN YEE	Date:	
Completed by:		Date:	

116 Alameda Ave & Victory Blvd
(Intersection Name)

NOTES:

	Interval	PHASE 1	2	3	4	5	6	7	8
0	WALK	0	7	0	7	0	7	0	7
1	DONT WALK	0	17	0	15	0	17	0	15
2	MIN INITIAL	6	10	6	10	0	10	6	10
3	TYPE 3 LIMIT	0	0	0	20	0	0	0	20
4	ADD PER VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	VEH EXT	3.0	3.0	2.0	3.0	0.0	3.0	2.0	3.0
6	MAX GAP	3.0	4.0	2.0	4.0	0.0	4.0	2.0	4.0
7	MIN GAP	3.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
8	MAX LIMIT	45	45	20	40	0	45	20	40
9	MAXIMUM 2	45	45	20	40	0	45	20	40
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	0.0	1.0	0.0	1.0	0.0	1.0	0.0	1.0
E	YELLOW	3.6	4.0	3.6	4.0	0.0	4.0	3.6	4.0
F	RED CLEAR	1.0	2.0	1.0	2.0	0.0	2.0	1.0	2.0

PHASE BANK 1 **< C + 0 + F = 1 >**

ALTERNATE TIMING

		9	A	B	C	D
1	Ph. 1	0	0	0	0	0.0
2	Ph. 2	0	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	0	0.0
6	Ph. 6	0	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0
		Maximum Initial	Alternate Walk	Alternate FDW	Alternate Initial	Alternate Extension

START / REVERT TIMES

ALL RED STRT: **<F/1 + C + 0>** = 6.0
FLASH START: **<F/1 + 0 + E>** = 0
RED REVERT: **<F/1 + 0 + F>** = 3.0

PREEMPT

	E
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

PHASE FUNCTION FLAGS
Column F

0	PERMIT	1234_678
1	RED LOCK	
2	YELLOW LOCK	
3	VEH MIN CALL	4 8
4	PED RECALL	4 8
5	*View Set Peds*	*_2_4_6_8*
6	REST IN WALK	
7	RED REST	
8	DOUBLE ENTRY	2 6
9	VEH MAX CALL	
A	SOFT RECALL	
B	MAXIMUM 2	
C	COND SERVICE	
D	MAN CONT CALL	
E	YELLOW START	
F	FIRST PHASES	2 6

< C + 0 + F = 1 >

SPECIALS
Column F

0	FAST GRN FLH	
1	GREEN FLSH	
2	FLASH WALK	
3	GUAR PASS	
4	SIMUL GAP	
5	SEQ TIMING	
6	ADV WALK	
7	DELAY WALK	
8	EXT RECALL	
9	Sart O'LapGreen	
A	MAX EXTEN	
B	INH PED RSRV	
C	SEMI ACTUA.	
D	Sart O'LapYellow	
E	STRT VEH CALL	1234_678
F	STRT PED CALL	_2_4_6_8

Specials <C + 0 + F = 2>

CNTRLR INTERVALS

0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 16

ZONE NUMBER:
< C/0 + 0 + 1 > = 1

AREA NUMBER:
< C/0 + 0 + 2 > = 2

AREA ADDRESS:
< C/0 + 0 + 3 > = 16

QUICNET CHANNEL:
UDP:8017:172.16.121.16

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >
2) Key stroke: PAGE + COLUMN + ROW

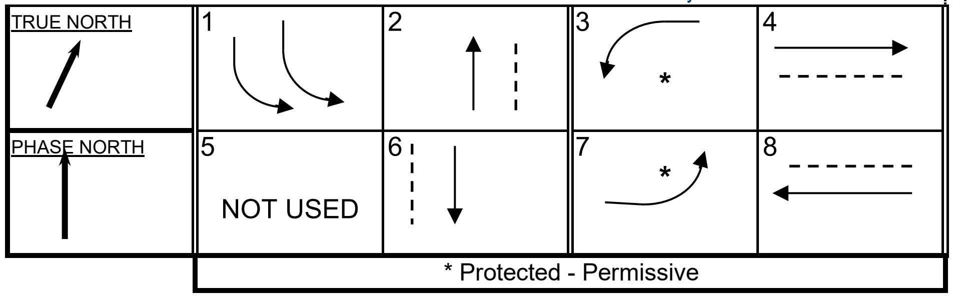
EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

PHASE DIAGRAM

E-W Street: Alameda Ave N-S Street : Victory Blvd



To Enable "E" Page, Set < F/1 + 9 + E = Not Zero >

CONTROLLER CONFIGURATION FLAGS

Column E

0	EXCLUSIVE	
1	RR 1 CLEAR	
2	RR 2 CLEAR	
3	RR 2 LTD SRV	
4	PROT/PERM	1_3___7_
5	FLH TO PREMT	
6	FLASH ENTRY	
7	DSABL MIN YEL	
8	DSABL OVP YEL	
9	OVP FLH YEL	
A	EM. VEH. A	
B	EM. VEH. B	
C	EM. VEH. C	
D	EM. VEH. D	
E	EXTRA 1	1_3_5
F	IC SELECT	2

< C + 0 + E = 125 >

Column F

0		
1	EXT PERMIT 1	
2	EXT PERMIT 2	
3	EXCLU PED	
4	Preemp Non Lock	
5	PED 2 P OUT	2
6	PED 6 P OUT	6
7	PED 4 P OUT	4
8	PED 8 P OUT	8
9	FLH YELLOW	
A	Low Prio A PH	
B	Low Prio B PH	
C	Low Prio C PH	
D	Low Prio D PH	
E	RESTRICTED	
F	EXTRA 2	4

< C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing /
Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER	Date:	4/20/2020
Checked by:	JONATHAN YEE	Date:	
Approved by:	JONATHAN YEE	Date:	
Completed by:		Date:	

147 Burbank & San Fernando Blvd
(Intersection Name)

NOTES:

		PHASE							
	Interval	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	WALK	0	7	0	7	0	7	0	7
1	DONT WALK	0	16	0	15	0	17	0	19
2	MIN INITIAL	6	10	6	10	10	10	10	10
3	TYPE 3 LIMIT	0	20	0	20	0	20	0	0
4	ADD PER VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	VEH EXT	2.0	3.5	2.0	3.5	5.0	2.5	3.5	3.5
6	MAX GAP	2.0	4.5	2.0	4.5	7.0	3.5	4.5	4.5
7	MIN GAP	2.0	2.5	2.0	2.5	3.5	2.0	2.5	2.5
8	MAX LIMIT	20	60	20	30	60	30	30	30
9	MAXIMUM 2	20	80	20	45	80	45	45	45
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	0.0	1.0	0.0	1.0	1.2	0.7	1.0	0.5
E	YELLOW	4.0	4.3	4.0	4.0	4.3	4.0	4.0	4.0
F	RED CLEAR	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0

PHASE BANK 1 **< C + 0 + F = 1 >**

		ALTERNATE TIMING				
		9	**A**	**B**	**C**	**D**
1	Ph. 1	0	0	0	0	0.0
2	Ph. 2	0	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	0	0.0
6	Ph. 6	0	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0
		Maximum Initial	Alternate Walk	Alternate FDW	Alternate Initial	Alternate Extension

START / REVERT TIMES

ALL RED STRT: **<F/1 + C + 0>** = 6.0
FLASH START: **<F/1 + 0 + E>** = 0
RED REVERT: **<F/1 + 0 + F>** = 3.0

PREEMPT	
	E
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

PHASE FUNCTION FLAGS

	Column F	
0	PERMIT	12345678
1	RED LOCK	
2	YELLOW LOCK	
3	VEH MIN CALL	2 56
4	PED RECALL	
5	*View Set Peds*	*2 4 6 8*
6	REST IN WALK	
7	RED REST	
8	DOUBLE ENTRY	
9	VEH MAX CALL	
A	SOFT RECALL	
B	MAXIMUM 2	
C	COND SERVICE	
D	MAN CONT CALL	
E	YELLOW START	
F	FIRST PHASES	2 6

< C + 0 + F = 1 >

SPECIALS

	Column F	
0	FAST GRN FLH	
1	GREEN FLSH	
2	FLASH WALK	
3	GUAR PASS	
4	SIMUL GAP	
5	SEQ TIMING	
6	ADV WALK	
7	DELAY WALK	
8	EXT RECALL	
9	Sart O'LapGreen	
A	MAX EXTEN	
B	INH PED RSRV	
C	SEMI ACTUA.	
D	Sart O'LapYellow	
E	STRT VEH CALL	12345678
F	STRT PED CALL	2 4 6 8

Specials <C + 0 + F = 2>

CNTRLR INTERVALS
0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 1

ZONE NUMBER:
< C/0 + 0 + 1 > = 1

AREA NUMBER:
< C/0 + 0 + 2 > = 1

AREA ADDRESS:
< C/0 + 0 + 3 > = 47

QUICNET CHANNEL:
UDP:8029:172.16.121.47

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >

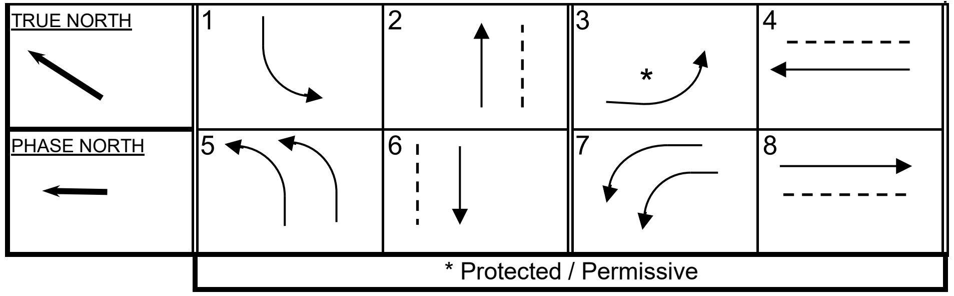
EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

PHASE DIAGRAM

E-W Street: Burbank Blvd
N-S Street : San Fernando Blvd



* Protected / Permissive

To Enable "E" Page, Set < F/1 + 9 + E = Not Zero **>**

CONTROLLER CONFIGURATION FLAGS

	Column E	
0	EXCLUSIVE	
1	RR 1 CLEAR	
2	RR 2 CLEAR	
3	RR 2 LTD SRV	
4	PROT/PERM	
5	FLH TO PREMT	
6	FLASH ENTRY	
7	DSABL MIN YEL	
8	DSABL OVP YEL	
9	OVP FLH YEL	
A	EM. VEH. A	
B	EM. VEH. B	
C	EM. VEH. C	
D	EM. VEH. D	
E	EXTRA 1	1 3 5
F	IC SELECT	2

< C + 0 + E = 125 >

	Column F	
0		
1	EXT PERMIT 1	
2	EXT PERMIT 2	
3	EXCLU PED	
4	Preemp Non Lock	
5	PED 2 P OUT	2
6	PED 6 P OUT	6
7	PED 4 P OUT	4
8	PED 8 P OUT	8
9	FLH YELLOW	
A	Low Prio A PH	
B	Low Prio B PH	
C	Low Prio C PH	
D	Low Prio D PH	
E	RESTRICTED	1 5
F	EXTRA 2	4

< C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

TEMPORARY

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing / Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER		Date:	4/20/2020
Checked by:	JONATHAN YEE		Date:	
Approved by:	JONATHAN YEE		Date:	
Completed by:			Date:	

147 Burbank & San Fernando Blvd
(Intersection Name)

NOTES: **TEMPORARY TIMING FOR CONSTRUCTION - BRIDGE CLOSURE**
REMOVE LS9 FROM AUX OUTPUT FILE, REPLACE CMU DIODE CARD AND STORE CURRENT CARD FOR REINSTALLATION

		PHASE							
	Interval	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
0	WALK	0	7	0	7	0	7	0	7
1	DONT WALK	0	16	0	15	0	17	0	19
2	MIN INITIAL	6	10	6	10	10	10	0	10
3	TYPE 3 LIMIT	0	20	0	20	0	20	0	0
4	ADD PER VEH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	VEH EXT	2.0	3.5	2.0	3.5	5.0	2.5	0.0	3.5
6	MAX GAP	2.0	4.5	2.0	4.5	7.0	3.5	0.0	4.5
7	MIN GAP	2.0	2.5	2.0	2.5	3.5	2.0	0.0	2.5
8	MAX LIMIT	20	40	20	45	40	45	0	45
9	MAXIMUM 2	20	40	20	45	40	45	0	45
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	0.0	1.0	0.0	1.0	1.2	0.7	0.0	0.5
E	YELLOW	4.0	4.3	4.0	4.0	4.3	4.0	0.0	4.0
F	RED CLEAR	1.0	2.0	1.0	2.0	1.0	2.0	0.0	2.0

PHASE BANK 1 **< C + 0 + F = 1 >**

		ALTERNATE TIMING				
		9	**A**	**B**	**C**	**D**
1	Ph. 1	0	0	0	0	0.0
2	Ph. 2	0	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	0	0.0
6	Ph. 6	0	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0
		Maximum Initial	Alternate Walk	Alternate FDW	Alternate Initial	Alternate Extension

PREEMPT	**E**
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

START / REVERT TIMES

ALL RED STRT: **<F/1 + C + 0>** = 6.0
FLASH START: **<F/1 + 0 + E>** = 0
RED REVERT: **<F/1 + 0 + F>** = 3.0

	PHASE FUNCTION FLAGS Column F	
0	PERMIT	#NAME?
1	RED LOCK	#NAME?
2	YELLOW LOCK	#NAME?
3	VEH MIN CALL	#NAME?
4	PED RECALL	#NAME?
5	*View Set Peds*	*#NAME?*
6	REST IN WALK	#NAME?
7	RED REST	#NAME?
8	DOUBLE ENTRY	#NAME?
9	VEH MAX CALL	#NAME?
A	SOFT RECALL	#NAME?
B	MAXIMUM 2	#NAME?
C	COND SERVICE	#NAME?
D	MAN CONT CALL	#NAME?
E	YELLOW START	#NAME?
F	FIRST PHASES	#NAME?

< C + 0 + F = 1 >

	SPECIALS Column F	
0	FAST GRN FLH	#NAME?
1	GREEN FLSH	#NAME?
2	FLASH WALK	#NAME?
3	GUAR PASS	#NAME?
4	SIMUL GAP	#NAME?
5	SEQ TIMING	#NAME?
6	ADV WALK	#NAME?
7	DELAY WALK	#NAME?
8	EXT RECALL	#NAME?
9	Sart O'LapGreen	#NAME?
A	MAX EXTEN	#NAME?
B	INH PED RSRV	#NAME?
C	SEMI ACTUA.	#NAME?
D	Sart O'LapYellow	#NAME?
E	STRT VEH CALL	#NAME?
F	STRT PED CALL	#NAME?

Specials <C + 0 + F = 2>

CNTRLR INTERVALS
0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 1

ZONE NUMBER:
< C/0 + 0 + 1 > = 1

AREA NUMBER:
< C/0 + 0 + 2 > = 1

AREA ADDRESS:
< C/0 + 0 + 3 > = 47

QUICNET CHANNEL:
UDP:8029:172.16.121.47

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >

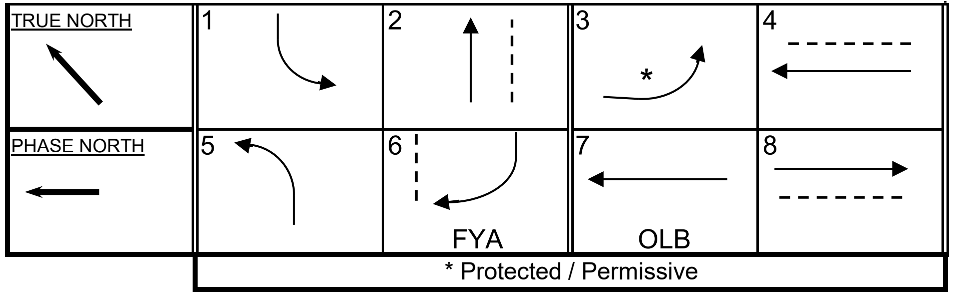
EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

PHASE DIAGRAM

E-W Street: #NAME? N-S Street : #NAME?



* Protected / Permissive

To Enable "E" Page, Set < F/1 + 9 + E = Not Zero >

CONTROLLER CONFIGURATION FLAGS

	Column E	
0	EXCLUSIVE	#NAME?
1	RR 1 CLEAR	#NAME?
2	RR 2 CLEAR	#NAME?
3	RR 2 LTD SRV	#NAME?
4	PROT/PERM	#NAME?
5	FLH TO PREMT	#NAME?
6	FLASH ENTRY	#NAME?
7	DSABL MIN YEL	#NAME?
8	DSABL OVP YEL	#NAME?
9	OVP FLH YEL	#NAME?
A	EM. VEH. A	#NAME?
B	EM. VEH. B	#NAME?
C	EM. VEH. C	#NAME?
D	EM. VEH. D	#NAME?
E	EXTRA 1	#NAME?
F	IC SELECT	#NAME?

< C + 0 + E = 125 >

	Column F	
0		
1	EXT PERMIT 1	#NAME?
2	EXT PERMIT 2	#NAME?
3	EXCLU PED	#NAME?
4	Preemp Non Lock	#NAME?
5	PED 2 P OUT	#NAME?
6	PED 6 P OUT	#NAME?
7	PED 4 P OUT	#NAME?
8	PED 8 P OUT	#NAME?
9	FLH YELLOW	#NAME?
A	Low Prio A PH	#NAME?
B	Low Prio B PH	#NAME?
C	Low Prio C PH	#NAME?
D	Low Prio D PH	#NAME?
E	RESTRICTED	#NAME?
F	EXTRA 2	#NAME?

< C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Coordination Timing
BiTrans 233RV2.x

167 First St & Magnolia Blvd			
Prepared by:	RICHARD LOCKYER	Date	04/24/20
Checked by:	JONATHAN YEE	Date	

		PLAN NUMBER								
		1	2	3	4	5	6	7	8	9
0	CYCLE	0	100	105	0	0	0	0	0	0
1	FORCE 1	0	65	67	0	0	0	0	0	0
2	FORCE 2	0	0	0	0	0	0	0	0	0
3	FORCE 3	0	15	15	0	0	0	0	0	0
4	FORCE 4	0	50	52	0	0	0	0	0	0
5	FORCE 5	0	65	67	0	0	0	0	0	0
6	FORCE 6	0	0	0	0	0	0	0	0	0
7	FORCE 7	0	15	15	0	0	0	0	0	0
8	FORCE 8	0	50	52	0	0	0	0	0	0
9	RING OFFSET	0	0	0	0	0	0	0	0	0
A	OFFSET 1	0	0	28	0	0	0	0	0	0
B	OFFSET 2	0	0	28	0	0	0	0	0	0
C	OFFSET 3	0	0	28	0	0	0	0	0	0
D	PERM 1 END	0	0	0	0	0	0	0	0	0
E	HOLD RELEASE	0	255	255	0	0	0	0	0	0
F	ZONE OFFSET	0	0	0	0	0	0	0	0	0

< C + 0 + C = 1 >

		COLUMN E										COLUMN F							
		1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8
0										0	LAG FREE	_	2	_	4	_	6	_	8
1	SYNC Plan 1	_	2	_	_	_	6	_	_	1	LAG PLAN 1	_	2	_	4	_	6	_	8
2	SYNC Plan 2	_	2	_	_	_	6	_	_	2	LAG PLAN 2	_	2	_	4	_	6	_	8
3	SYNC Plan 3	_	2	_	_	_	6	_	_	3	LAG PLAN 3	_	2	_	4	_	6	_	8
4	SYNC Plan 4	_	2	_	_	_	6	_	_	4	LAG PLAN 4	_	2	_	4	_	6	_	8
5	SYNC Plan 5	_	2	_	_	_	6	_	_	5	LAG PLAN 5	_	2	_	4	_	6	_	8
6	SYNC Plan 6	_	2	_	_	_	6	_	_	6	LAG PLAN 6	_	2	_	4	_	6	_	8
7	SYNC Plan 7	_	2	_	_	_	6	_	_	7	LAG PLAN 7	_	2	_	4	_	6	_	8
8	SYNC Plan 8	_	2	_	_	_	6	_	_	8	LAG PLAN 8	_	2	_	4	_	6	_	8
9	SYNC Plan 9	_	2	_	_	_	6	_	_	9	LAG PLAN 9	_	2	_	4	_	6	_	8
A	NEMA SYNC	_	_	_	_	_	_	_	_	A	EXT. LAG	_	2	_	4	_	6	_	8
B	NEMA HOLD	_	_	_	_	_	_	_	_	B	LAG HOLD	_	_	_	_	_	_	_	_
C										C									
D										D									
E	COORD EXTRA	_	2	_	_	_	_	_	_	E									
F										F									

COORDINATION EXTRA

1 = Programmed Walk Time

2 = FDW Begins at Sync Phase

Force Off minus FDW

< C + 0 + C = 1 >

COLUMN 2	
Coord Min.	
1	12
2	26
3	12
4	34
5	12
6	29
7	12
8	15

< C + 0 + C = 5 >

TRANSITION TYPE:

< C/5 + 1 + 9 > = 1.3

0.X = SHORTWAY

1.X = DWELL

X.1 THRU .X4 = NUMBER OF CYCLES WHEN LENGTHENING

LAG HOLD PHASES:

< C/5 + 1 + A > = ______

IEN STATUS: ON =/= 0

IEN Status < C/5 + 1 + B > = 1

LOCAL ALARM DISABLE

< C/5 + F + 0 > = ______

7 - Wire Master

Synch Time < C/5 + 1 + C > = 0.0

ROW	Plan # -->	1	2	3	4	5	6	7	8	9	ROW
0	PED ADJUST	0	0	0	0	0	0	0	0	0	0
1	PERM 2 START	0	0	0	0	0	0	0	0	0	1
2	PERM 2 END	0	0	0	0	0	0	0	0	0	2
3	PERM 3 START	0	0	0	0	0	0	0	0	0	3
4	PERM 3 END	0	0	0	0	0	0	0	0	0	4
5	RSRVC TIME	0	0	0	0	0	0	0	0	0	5
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
6	RSRVC PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7											7
8	PRETIMED PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	8
9	MAX RECALL	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	PERM 1 VEH	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	A
B	PERM 1 PED	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	B
C	PERM 2 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	C
D	PERM 2 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	D
E	PERM 3 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	E
F	PERM 3 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	F

COORDINATION PAGE 2 < C + 0 + C = 2 >

CURRENT DATE/TIME

(HR-MIN-DOW) = <8/0 + 0>

(Day-YR-MO) = <8/0 + 1>

(MN-S-1/10SEC) = <8/0 + F>

Daylight Savings Time

Begin Month	<C/5+2+A>	0
Begin Week	<C/5+2+B>	0
End Month	<C/5+2+C>	0
End Week	<C/5+2+D>	0

Advance Warning Beacon - Sign 1

Time Before Yellow	<F/1+C+E>	0.0
Phase Number	<F/1+C+F>	0

Advance Warning Beacon - Sign 2

Time Before Yellow	<F/1+D+E>	0.0
Phase Number	<F/1+D+F>	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

Phase Bank 1 & Phase Functions

Page 1 of 1

Controller: 168 First St & Olive Ave

Phase Functions - Page 1 - 1-1

Red Lock	_2___6__
Yellow Lock	________
Simultaneous Gap	________
Rest In Walk	________
Advance Walk	________
Flashing Walk	________
Max Extension	________
Red Rest	________
Dual Entry	_2_4_6_8
Sequential Timing	________
Inhibit Ped Reservice	________
Delay Walk	________
Guaranteed Passage	________
Conditional Service	________

Phase Functions - Page 2 - 1-2

Minimum Recall	_2_4_6_8
Ped Recall	________
Maximum Recall	________
Green Flash	________
Overlap Green Flash	________
Flashing Yellow Arrow for PPLT	__3_5___
Soft Recall	________
External Recall	________
Manual Control Calls	________
Fast Green Flash	________
Fast Overlap Green Flash	________
Semi-Actuated	________

Startup - 9-1

Flash Start	0
All Red Start	6.0
Yellow Start Phases	________
First Green Phases	___4___8
Startup Vehicle Calls	12345678
Startup Ped Calls	_2_4_6_8

Detector Monitoring - 9-3

Max On	21
Max Off	250
Chatter	255

Advance Warning Signs - 9-4

	Sign 1	Sign 2
Phase Number	0	0
Time Before Yellow	0.0	0.0

Phase Timing - Bank 1 - 1-3-[1]

	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6	Phase 7	Phase 8
Min Green	6	10	6	10	6	10	6	10
Extension	1.5	3.5	2.5	3.5	2.5	3.5	1.5	3.5
Max	20	50	20	50	20	50	20	50
Max 2	20	50	20	50	20	50	20	50
Cond Serve Check	0	0	0	0	0	0	0	0
Clearance Timing - 1-4-[1]								
Yellow Change	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Red Clear	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0
Pedestrian Timing - 1-5-[1]								
Walk	0	7	0	7	0	7	0	7
Pedestrian Change	0	20	0	17	0	20	0	15
Advance/Delay Walk	0	0	0	0	0	0	0	0
PE Min. Ped. Change	0	0	0	0	0	0	0	0
Volume-Density - 1-6-[1]								
Type 3 Disconnect	0	20	0	20	0	20	0	20
Add per Vehicle	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Added Initial	0	0	0	0	0	0	0	0
Min Gap	1.5	2.5	1.5	3.5	1.5	2.5	1.5	2.5
Max Gap	1.5	4.5	3.5	4.5	3.5	4.5	1.5	4.5
Reduce Every	0.0	1.0	0.7	1.0	0.7	1.0	0.0	1.0
Alternate Timing - 1-7-[1]								
Alternate Walk	0	0	0	0	0	0	0	0
Alternate Ped. Change	0	0	0	0	0	0	0	0
Alternate Minimum	0	0	0	0	0	0	0	0
Alternate Extension	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Configuration - 9-5

Exclusive Phases	________	Permitted Phases	12345678
Protected/Permissive Phases	1_3_5_7_	Restricted Phases	________
Disable Phase Min. Yellow	________	Disable Overlap Min. Yellow	________
Free Lag Phases	_2_4_6_8	External Permit 1	________
External Lag Phases	_2_4_6_8	External Permit 2	________
Pedestrian Forceoff Phases	________	External Permit 3	________
Extra One	1_3_5___	Extra Two	___4__7_

1 = TBC Type 1
2 = (unused)
3 = Adjust Clock for Daylight Saving Time
4 = Terminate Ped. for EV Preempt
5 = QuicComm Extended Status
6 = International Style Pedestrian Change Interval
7 = (unused)
8 = Split Ring Operation

1 = Adv. Warn. Signs On During Min. Init.
2 = Siemens i2 Communications Protocol
3 = Disable Minimum Walk Check
4 = QuicNet System Communications
5 = Ignore Anti-Backup During Preempt
6 = Bridgeport Naztec TS 2 I/O Map
7 = Allow Remote Preemption Calls
8 = Caltrans Traf. Resp. FM Comm.

Phase Timing - Exclusive Pedestrian - 1-8

Exclusive Ped Assignment	________
Exclusive Walk	0
Exclusive Pedestrian Change	0
Red Clear	0.0
Walk Output	0
Don't Walk Output	0

Clock Set - 9-6

Manual Operation - 9-7

Manual Plan	0

1–9 = Coordination Plans
14 = Free
15 = Flash

Manual Offset	0

Software Flash - 9-8

Flash Entry Phases	________
Flash Yellow Phases	________
Flash Yellow Overlaps	________
Flash Type	0

0 = All On/All Off (1-2-3-4-5-6-7-8, dark)
1 = Main/Side (1-2-5-6, 3-4-7-8)
2 = Odd/Even (1-3-5-7, 2-4-6-8)
3 = Ring Pairs (1-6, 4-7, 2-5, 3-8)

Misc - 9-9

Keyboard Beep	N
Backlight Timeout	10
Soft Recall Delay	3.0
Red Revert	3.0
FYA Delay	0

Daylight Saving Time - 9-C

Start Month	0
Start Week	0
End Month	0
End Week	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL Coordination Timing
BiTrans 233RV2.x

115 Alameda Ave & San Fernando B			
Prepared by:	RICHARD LOCKYER	Date	04/16/20
Checked by:	JONATHAN YEE	Date	

		PLAN NUMBER								
		1	2	3	4	5	6	7	8	9
0	CYCLE	100	100	100	110	120	130	140	0	0
1	FORCE 1	36	36	36	40	47	47	52	0	0
2	FORCE 2	66	66	66	70	77	77	87	0	0
3	FORCE 3	18	18	18	22	25	25	27	0	0
4	FORCE 4	0	0	0	0	0	0	0	0	0
5	FORCE 5	33	33	33	40	45	45	45	0	0
6	FORCE 6	66	66	66	70	77	77	87	0	0
7	FORCE 7	83	83	83	88	95	98	115	0	0
8	FORCE 8	18	18	18	22	25	25	27	0	0
9	RING OFFSET	0	0	0	0	0	0	0	0	0
A	OFFSET 1	34	34	34	37	110	3	100	0	0
B	OFFSET 2	66	66	66	70	61	3	100	0	0
C	OFFSET 3	64	34	64	84	67	3	100	0	0
D	PERM 1 END	7	7	7	11	14	14	16	0	0
E	HOLD RELEASE	255	255	255	255	255	255	255	0	0
F	ZONE OFFSET	0	0	0	0	0	0	0	0	0

< C + 0 + C = 1 >

		COLUMN E 1 2 3 4 5 6 7 8			COLUMN F 1 2 3 4 5 6 7 8
0			0	LAG FREE	_ 2 3 _ _ 6 _ 8
1	SYNC Plan 1	_ _ _ 4 _ _ _ 8	1	LAG PLAN 1	_ 2 3 _ _ 6 _ 8
2	SYNC Plan 2	_ _ _ 4 _ _ _ 8	2	LAG PLAN 2	_ 2 3 _ _ 6 _ 8
3	SYNC Plan 3	_ _ _ 4 _ _ _ 8	3	LAG PLAN 3	_ 2 3 _ _ 6 _ 8
4	SYNC Plan 4	_ _ _ 4 _ _ _ 8	4	LAG PLAN 4	_ 2 3 _ _ 6 _ 8
5	SYNC Plan 5	_ _ _ 4 _ _ _ 8	5	LAG PLAN 5	_ 2 3 _ _ 6 _ 8
6	SYNC Plan 6	_ _ _ 4 _ _ _ 8	6	LAG PLAN 6	_ 2 3 _ _ 6 _ 8
7	SYNC Plan 7	_ _ _ 4 _ _ _ 8	7	LAG PLAN 7	_ 2 3 _ _ 6 _ 8
8	SYNC Plan 8	_ _ _ 4 _ _ _ 8	8	LAG PLAN 8	_ 2 3 _ _ 6 _ 8
9	SYNC Plan 9	_ _ _ 4 _ _ _ 8	9	LAG PLAN 9	_ 2 3 _ _ 6 _ 8
A	NEMA SYNC	_ _ _ _ _ _ _ _	A	EXT. LAG	_ _ _ _ _ _ _ _
B	NEMA HOLD	_ _ _ _ _ _ _ _	B	LAG HOLD	_ _ _ _ _ _ _ _
C			C		
D			D		
E	COORD EXTRA	_ 2 _ _ _ _ _ _	E		
F			F		

< C + 0 + C = 1 >

COORDINATION EXTRA
1 = Programmed Walk Time
2 = FDW Begins at Sync Phase
Force Off minus FDW

COLUMN 2 Coord Min.	
1	12
2	28
3	12
4	31
5	12
6	28
7	12
8	29

< C + 0 + C = 5 >

TRANSITION TYPE:
< C/5 + 1 + 9 > = 1.3
0.X = SHORTWAY
1.X = DWELL
X.1 THRU .X4 = NUMBER OF CYCLES WHEN LENGTHENING

LAG HOLD PHASES:
< C/5 + 1 + A > = ________

IEN STATUS: ON =/= 0
IEN Status < C/5 + 1 + B > = 1

LOCAL ALARM DISABLE
< C/5 + F + 0 > = ________

7 - Wire Master
Synch Time < C/5 + 1 + C > = 0.0

ROW	Plan # -->	1	2	3	4	5	6	7	8	9	ROW
0	PED ADJUST	0	0	0	0	0	0	0	0	0	0
1	PERM 2 START	18	18	18	22	25	25	27	0	0	1
2	PERM 2 END	37	37	37	44	49	49	49	0	0	2
3	PERM 3 START	65	65	65	69	76	76	86	0	0	3
4	PERM 3 END	91	91	91	101	111	121	131	0	0	4
5	RSRVC TIME	0	0	0	0	0	0	0	0	0	5
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
6	RSRVC PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7											7
8	PRETIMED PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	8
9	MAX RECALL	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	PERM 1 VEH	_ _ 3 _ _ _ _ _	_ _ 3 _ _ _ _ _	_ _ 3 _ _ _ _ _	_ _ 3 _ _ _ _ _	_ _ 3 _ _ _ _ _	_ _ 3 _ _ _ _ _	_ _ 3 _ _ _ _ _	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	A
B	PERM 1 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	B
C	PERM 2 VEH	1 2 _ _ 5 6 _ _	1 2 _ _ 5 6 _ _	1 2 _ _ 5 6 _ _	1 2 _ _ 5 6 _ _	1 2 _ _ 5 6 _ _	1 2 _ _ 5 6 _ _	1 2 _ _ 5 6 _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	C
D	PERM 2 PED	_ 2 _ _ _ 6 _ _	_ 2 _ _ _ 6 _ _	_ 2 _ _ _ 6 _ _	_ 2 _ _ _ 6 _ _	_ 2 _ _ _ 6 _ _	_ 2 _ _ _ 6 _ _	_ 2 _ _ _ 6 _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	D
E	PERM 3 VEH	_ _ _ _ _ _ 7 _	_ _ _ _ _ _ 7 _	_ _ _ _ _ _ 7 _	_ _ _ _ _ _ 7 _	_ _ _ _ _ _ 7 _	_ _ _ _ _ _ 7 _	_ _ _ _ _ _ 7 _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	E
F	PERM 3 PED	_ _ _ 4 _ _ _ 8	_ _ _ 4 _ _ _ 8	_ _ _ 4 _ _ _ 8	_ _ _ 4 _ _ _ 8	_ _ _ 4 _ _ _ 8	_ _ _ 4 _ _ _ 8	_ _ _ 4 _ _ _ 8	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	F

COORDINATION PAGE 2 < C + 0 + C = 2 >

CURRENT DATE/TIME
(HR-MIN-DOW) = <8/0 + 0>
(Day-YR-MO) = <8/0 + 1>
(MN-S-1/10SEC) = <8/0 + F>

Daylight Savings Time

Begin Month	<C/5+2+A>	0
Begin Week	<C/5+2+B>	0
End Month	<C/5+2+C>	0
End Week	<C/5+2+D>	0

Advance Warning Beacon - Sign 1

Time Before Yellow	<F/1+C+E>	0.0
Phase Number	<F/1+C+F>	0

Advance Warning Beacon - Sign 2

Time Before Yellow	<F/1+D+E>	0.0
Phase Number	<F/1+D+F>	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Coordination Timing
BiTrans 233RV2.x

173 Glenoaks Blvd & Magnolia Blv			
Prepared by:	RICHARD LOCKYER	Date	04/24/20
Checked by:	JONATHAN YEE	Date	

		PLAN NUMBER								
		1	2	3	4	5	6	7	8	9
0	CYCLE	0	90	100	110	120	140	140	0	0
1	FORCE 1	0	49	50	56	60	70	70	0	0
2	FORCE 2	0	0	0	0	0	0	0	0	0
3	FORCE 3	0	0	0	0	0	0	0	0	0
4	FORCE 4	0	34	35	38	40	50	50	0	0
5	FORCE 5	0	49	50	56	60	70	70	0	0
6	FORCE 6	0	0	0	0	0	0	0	0	0
7	FORCE 7	0	0	0	0	0	0	0	0	0
8	FORCE 8	0	34	35	38	40	50	50	0	0
9	RING OFFSET	0	0	0	0	0	0	0	0	0
A	OFFSET 1	0	78	70	82	96	96	96	0	0
B	OFFSET 2	0	5	29	39	114	123	123	0	0
C	OFFSET 3	0	41	29	99	102	86	86	0	0
D	PERM 1 END	0	0	0	0	0	0	0	0	0
E	HOLD RELEASE	0	255	255	255	255	255	255	0	0
F	ZONE OFFSET	0	0	0	0	0	0	0	0	0

< C + 0 + C = 1 >

	COLUMN E									COLUMN F								
		1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8
0										0	LAG FREE	_	2	_	4	_	6	_	8
1	SYNC Plan 1	_	2	_	_	_	6	_	_	1	LAG PLAN 1	_	2	_	4	_	6	_	8
2	SYNC Plan 2	_	2	_	_	_	6	_	_	2	LAG PLAN 2	_	2	_	4	_	6	_	8
3	SYNC Plan 3	_	2	_	_	_	6	_	_	3	LAG PLAN 3	_	2	_	4	_	6	_	8
4	SYNC Plan 4	_	2	_	_	_	6	_	_	4	LAG PLAN 4	_	2	_	4	_	6	_	8
5	SYNC Plan 5	_	2	_	_	_	6	_	_	5	LAG PLAN 5	_	2	_	4	_	6	_	8
6	SYNC Plan 6	_	2	_	_	_	6	_	_	6	LAG PLAN 6	_	2	_	4	_	6	_	8
7	SYNC Plan 7	_	2	_	_	_	6	_	_	7	LAG PLAN 7	_	2	_	4	_	6	_	8
8	SYNC Plan 8	_	2	_	_	_	6	_	_	8	LAG PLAN 8	_	2	_	4	_	6	_	8
9	SYNC Plan 9	_	2	_	_	_	6	_	_	9	LAG PLAN 9	_	2	_	4	_	6	_	8
A	NEMA SYNC	_	_	_	_	_	_	_	_	A	EXT. LAG	_	_	_	_	_	_	_	_
B	NEMA HOLD	_	_	_	_	_	_	_	_	B	LAG HOLD	_	_	_	_	_	_	_	_
C										C									
D										D									
E	COORD EXTRA	_	2	_	_	_	_	_	_	E									
F										F									

COORDINATION EXTRA
1 = Programmed Walk Time
2 = FDW Begins at Sync Phase
Force Off minus FDW

< C + 0 + C = 1 >

COLUMN 2	
Coord Min.	
1	15
2	26
3	0
4	28
5	15
6	26
7	0
8	28

< C + 0 + C = 5 >

TRANSITION TYPE:
< C/5 + 1 + 9 > = 1.3
0.X = SHORTWAY
1.X = DWELL
X.1 THRU .X4 = NUMBER OF CYCLES WHEN LENGTHENING

LAG HOLD PHASES:
< C/5 + 1 + A > = ________

IEN STATUS: ON =/= 0
IEN Status < C/5 + 1 + B > = 1

LOCAL ALARM DISABLE
< C/5 + F + 0 > = ________

7 - Wire Master
Synch Time < C/5 + 1 + C > = 0.0

ROW	Plan # -->	1	2	3	4	5	6	7	8	9	ROW
0	PED ADJUST	0	0	0	0	0	0	0	0	0	0
1	PERM 2 START	0	0	0	0	0	0	0	0	0	1
2	PERM 2 END	0	0	0	0	0	0	0	0	0	2
3	PERM 3 START	0	0	0	0	0	0	0	0	0	3
4	PERM 3 END	0	0	0	0	0	0	0	0	0	4
5	RSRVC TIME	0	0	0	0	0	0	0	0	0	5
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
6	RSRVC PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7											7
8	PRETIMED PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	8
9	MAX RECALL	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	PERM 1 VEH	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	A
B	PERM 1 PED	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	B
C	PERM 2 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	C
D	PERM 2 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	D
E	PERM 3 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	E
F	PERM 3 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	F

COORDINATION PAGE 2 < C + 0 + C = 2 >

CURRENT DATE/TIME
(HR-MIN-DOW) = <8/0 + 0>
(Day-YR-MO) = <8/0 + 1>
(MN-S-1/10SEC) = <8/0 + F>

Daylight Savings Time

Begin Month	<C/5+2+A>	0
Begin Week	<C/5+2+B>	0
End Month	<C/5+2+C>	0
End Week	<C/5+2+D>	0

Advance Warning Beacon - Sign 1

Time Before Yellow	<F/1+C+E>	0.0
Phase Number	<F/1+C+F>	0

Advance Warning Beacon - Sign 2

Time Before Yellow	<F/1+D+E>	0.0
Phase Number	<F/1+D+F>	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Coordination Timing
BiTrans 233RV2.x

174 Glenoaks Blvd & Olive Ave			
Prepared by:	RICHARD LOCKYER	Date	04/24/20
Checked by:	JONATHAN YEE	Date	

	PLAN NUMBER	1	2	3	4	5	6	7	8	9
0	CYCLE	0	90	100	110	120	140	140	0	0
1	FORCE 1	0	58	60	65	71	75	75	0	0
2	FORCE 2	0	0	0	0	0	0	0	0	0
3	FORCE 3	0	15	15	17	19	20	20	0	0
4	FORCE 4	0	43	45	48	51	53	53	0	0
5	FORCE 5	0	58	60	65	71	75	75	0	0
6	FORCE 6	0	0	0	0	0	0	0	0	0
7	FORCE 7	0	15	15	17	19	20	20	0	0
8	FORCE 8	0	43	45	48	51	53	53	0	0
9	RING OFFSET	0	0	0	0	0	0	0	0	0
A	OFFSET 1	0	39	42	54	71	71	71	0	0
B	OFFSET 2	0	5	29	39	114	114	114	0	0
C	OFFSET 3	0	55	40	5	6	113	113	0	0
D	PERM 1 END	0	0	0	0	0	0	0	0	0
E	HOLD RELEASE	0	255	255	255	255	255	255	0	0
F	ZONE OFFSET	0	0	0	0	0	0	0	0	0

< C + 0 + C = 1 >

	COLUMN E	1	2	3	4	5	6	7	8		COLUMN F	1	2	3	4	5	6	7	8
0										0	LAG FREE	_	2	_	4	_	6	_	8
1	SYNC Plan 1	_	2	_	_	_	6	_	_	1	LAG PLAN 1	_	2	_	4	_	6	_	8
2	SYNC Plan 2	_	2	_	_	_	6	_	_	2	LAG PLAN 2	_	2	_	4	_	6	_	8
3	SYNC Plan 3	_	2	_	_	_	6	_	_	3	LAG PLAN 3	_	2	_	4	_	6	_	8
4	SYNC Plan 4	_	2	_	_	_	6	_	_	4	LAG PLAN 4	_	2	_	4	_	6	_	8
5	SYNC Plan 5	_	2	_	_	_	6	_	_	5	LAG PLAN 5	_	2	_	4	_	6	_	8
6	SYNC Plan 6	_	2	_	_	_	6	_	_	6	LAG PLAN 6	_	2	_	4	_	6	_	8
7	SYNC Plan 7	_	2	_	_	_	6	_	_	7	LAG PLAN 7	_	2	_	4	_	6	_	8
8	SYNC Plan 8	_	2	_	_	_	6	_	_	8	LAG PLAN 8	_	2	_	4	_	6	_	8
9	SYNC Plan 9	_	2	_	_	_	6	_	_	9	LAG PLAN 9	_	2	_	4	_	6	_	8
A	NEMA SYNC	_	_	_	_	_	_	_	_	A	EXT. LAG	_	_	_	_	_	_	_	_
B	NEMA HOLD	_	_	_	_	_	_	_	_	B	LAG HOLD	_	_	_	_	_	_	_	_
C										C									
D										D									
E	COORD EXTRA	_	2	_	_	_	_	_	_	E									
F										F									

COORDINATION EXTRA

1 = Programmed Walk Time

2 = FDW Begins at Sync Phase

Force Off minus FDW

< C + 0 + C = 1 >

COLUMN 2	
Coord Min.	
1	12
2	29
3	12
4	26
5	12
6	26
7	12
8	28

< C + 0 + C = 5 >

TRANSITION TYPE:

< C/5 + 1 + 9 > = 1.3

0.X = SHORTWAY
1.X = DWELL
X.1 THRU .X4 = NUMBER OF CYCLES WHEN LENGTHENING

LAG HOLD PHASES:

< C/5 + 1 + A > = ________

IEN STATUS: ON =/= 0

IEN Status < C/5 + 1 + B > = 1

LOCAL ALARM DISABLE

< C/5 + F + 0 > = ________

7 - Wire Master

Synch Time < C/5 + 1 + C > = 0.0

ROW	Plan # -->	1	2	3	4	5	6	7	8	9	ROW
0	PED ADJUST	0	0	0	0	0	0	0	0	0	0
1	PERM 2 START	0	0	0	0	0	0	0	0	0	1
2	PERM 2 END	0	0	0	0	0	0	0	0	0	2
3	PERM 3 START	0	0	0	0	0	0	0	0	0	3
4	PERM 3 END	0	0	0	0	0	0	0	0	0	4
5	RSRVC TIME	0	0	0	0	0	0	0	0	0	5
		1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	
6	RSRVC PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	6
7											7
8	PRETIMED PH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	8
9	MAX RECALL	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	9
A	PERM 1 VEH	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	A
B	PERM 1 PED	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	1 2 3 4 5 6 7 8	B
C	PERM 2 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	C
D	PERM 2 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	D
E	PERM 3 VEH	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	E
F	PERM 3 PED	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	_ _ _ _ _ _ _ _	F

COORDINATION PAGE 2 < C + 0 + C = 2 >

CURRENT DATE/TIME
(HR-MIN-DOW) = <8/0 + 0>
(Day-YR-MO) = <8/0 + 1>
(MN-S-1/10SEC) = <8/0 + F>

Daylight Savings Time

Begin Month	<C/5+2+A>	0
Begin Week	<C/5+2+B>	0
End Month	<C/5+2+C>	0
End Week	<C/5+2+D>	0

Advance Warning Beacon - Sign 1

Time Before Yellow	<F/1+C+E>	0.0
Phase Number	<F/1+C+F>	0

Advance Warning Beacon - Sign 2

Time Before Yellow	<F/1+D+E>	0.0
Phase Number	<F/1+D+F>	0

CITY OF BURBANK
PUBLIC WORKS DEPARTMENT
Traffic Engineering Division

TRAFFIC SIGNAL
Phase Timing / Phase Configuration
BiTrans 233RV2.x

Prepared by:	RICHARD LOCKYER		Date: 4/16/2020
Checked by:	JONATHAN YEE		Date:
Approved by:	JONATHAN YEE		Date:
Completed by:			Date:

105 Alameda Ave & Glenoaks Bl
(Intersection Name)

NOTES:

	Interval	*PHASE* 1	2	3	4	5	6	7	8
0	WALK	0	7	0	7	0	7	0	7
1	DONT WALK	0	14	0	30	0	11	0	30
2	MIN INITIAL	6	10	6	10	6	10	6	10
3	TYPE 3 LIMIT	0	25	0	0	0	25	0	0
4	ADD PER VEH	0.0	1.5	0.0	0.0	0.0	1.5	0.0	0.0
5	VEH EXT	2.0	4.0	2.0	4.0	2.0	4.0	2.0	4.0
6	MAX GAP	3.0	5.0	3.0	5.0	3.0	5.0	3.0	5.0
7	MIN GAP	1.5	3.0	1.5	3.0	1.5	3.0	1.5	3.0
8	MAX LIMIT	30	45	40	50	25	45	20	50
9	MAXIMUM 2	30	45	40	50	25	45	20	50
A	ADV/DLY WLK	0	0	0	0	0	0	0	0
B	PE MIN FDW	0	0	0	0	0	0	0	0
C	COND SRV CHK	0	0	0	0	0	0	0	0
D	REDUCE EVERY	0.5	1.0	0.5	1.0	0.5	1.0	0.5	1.0
E	YELLOW	3.6	4.0	3.6	4.0	3.6	4.0	3.6	4.0
F	RED CLEAR	1.0	2.0	1.0	2.0	1.0	2.0	1.0	2.0

PHASE BANK 1 **< C + 0 + F = 1 >**

ALTERNATE TIMING

		9	A	B	C	D
1	Ph. 1	0	0	0	0	0.0
2	Ph. 2	20	0	0	0	0.0
3	Ph. 3	0	0	0	0	0.0
4	Ph. 4	0	0	0	0	0.0
5	Ph. 5	0	0	0	0	0.0
6	Ph. 6	20	0	0	0	0.0
7	Ph. 7	0	0	0	0	0.0
8	Ph. 8	0	0	0	0	0.0
		Maximum Initial	Alternate Walk	Alternate FDW	Alternate Initial	Alternate Extension

PREEMPT

	E
RR1 DLY	0
RR1 CLR	0
EVA DLY	0
EVA CLR	0
EVB DLY	0
EVB CLR	0
EVC DLY	0
EVC CLR	0
EVD DLY	0
EVD CLR	0
RR2 DLY	0
RR2 CLR	0
EV CLR	- - -
EV DLY	- - -
RR CLR	- - -
RR DLY	- - -

START / REVERT TIMES

ALL RED STRT: **<F/1 + C + 0>** = 6.0
FLASH START: **<F/1 + 0 + E>** = 0
RED REVERT: **<F/1 + 0 + F>** = 3.0

PHASE FUNCTION FLAGS
Column F

0	PERMIT	12345678
1	RED LOCK	
2	YELLOW LOCK	
3	VEH MIN CALL	2 6
4	PED RECALL	
5	*View Set Peds*	_2_4_6_8
6	REST IN WALK	
7	RED REST	
8	DOUBLE ENTRY	4 8
9	VEH MAX CALL	
A	SOFT RECALL	
B	MAXIMUM 2	
C	COND SERVICE	
D	MAN CONT CALL	
E	YELLOW START	
F	FIRST PHASES	2 6

< C + 0 + F = 1 >

SPECIALS
Column F

0	FAST GRN FLH	
1	GREEN FLSH	
2	FLASH WALK	
3	GUAR PASS	
4	SIMUL GAP	
5	SEQ TIMING	
6	ADV WALK	
7	DELAY WALK	
8	EXT RECALL	
9	Sart O'LapGreen	
A	MAX EXTEN	
B	INH PED RSRV	
C	SEMI ACTUA.	
D	Sart O'LapYellow	
E	STRT VEH CALL	12345678
F	STRT PED CALL	_2_4_6_8

Specials <C + 0 + F = 2>

CNTRLR INTERVALS

0 = Walk
1 = FDW
2 = MIN. Green
3 =
4 = Var. Initial
5 = Extension
6 =
7 = Reduce Gap
8 = Red Rest
9 = Preempt
A = Stop Time
B = Red Revrt
C = Gap Term.
D = MAX Term.
E = Forceoff
F = Red Clear.

MANUAL PLAN SELECT:
< C/0 + A + 1 > = 0
AUTO = 0 PLAN = 1 - 9
FREE = 14
FLASH= 15

MANUAL OFFSET SELECT:
< C/0 + B + 1 > = 0
AUTO = 0 OFFSET A = 1
OFFSET B = 2
OFFSET C = 3

COMM ADDRESS:
< C/0 + 0 + 0 > = 21

ZONE NUMBER:
< C/0 + 0 + 1 > = 1

AREA NUMBER:
< C/0 + 0 + 2 > = 2

AREA ADDRESS:
< C/0 + 0 + 3 > = 5

QUICNET CHANNEL:
UDP:8017:172.16.121.5

INPUT KEYSTROKES:
1) Set PAGE to required BANK #
< C+0+PAGE = BANK # >
2) Key stroke: PAGE + COLUMN + ROW

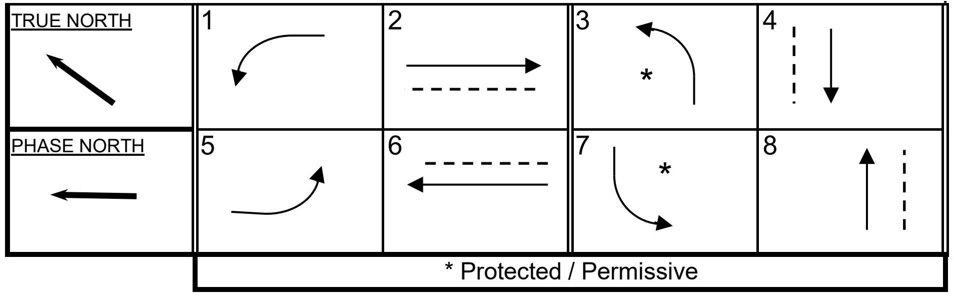
EXCL. PED. PHASE
WALK (F/1+0+0) = 0
FDW (F/1+0+1) = 0
ALL RED (F/1+0+2) = 0.0
Assigned at E/127+A+E & F

EXTRA 1
1 = TBC Type 1
2 = NEMA External Coordinator
3 = Auto Daylight Savings
4 = EV Preempt Advance
5 = Expanded Status Report
7 = Clear Outputs During Flash
8 = Split Ring Operation

IC SELECT
2 = 2 Way Modem
3 = 7 Wire Slave
4 = Flash / Free
5 = Simplex Master
8 = Offset Interruptor

PHASE DIAGRAM

E-W Street: Alameda Ave N-S Street : Glenoaks Blvd



* Protected / Permissive

To Enable "E" Page, Set < F/1 + 9 + E = Not Zero >

CONTROLLER CONFIGURATION FLAGS

Column E

0	EXCLUSIVE	
1	RR 1 CLEAR	
2	RR 2 CLEAR	
3	RR 2 LTD SRV	
4	PROT/PERM	3 7
5	FLH TO PREMT	
6	FLASH ENTRY	
7	DSABL MIN YEL	
8	DSABL OVP YEL	
9	OVP FLH YEL	
A	EM. VEH. A	
B	EM. VEH. B	
C	EM. VEH. C	
D	EM. VEH. D	
E	EXTRA 1	1_3_5
F	IC SELECT	2

< C + 0 + E = 125 >

Column F

0		
1	EXT PERMIT 1	
2	EXT PERMIT 2	
3	EXCLU PED	
4	Preemp Non Lock	
5	PED 2 P OUT	2
6	PED 6 P OUT	6
7	PED 4 P OUT	4
8	PED 8 P OUT	8
9	FLH YELLOW	
A	Low Prio A PH	
B	Low Prio B PH	
C	Low Prio C PH	
D	Low Prio D PH	
E	RESTRICTED	
F	EXTRA 2	4

< C + 0 + E = 125 >

Flash To Preempt / Preempt Non Lock
1 = EVP - A
2 = EVP - B
3 = EVP - C
4 = EVP - D
5 = RR - 1
6 = RR - 2
7 = Spl Ev - 1
8 = Spl Ev - 2

EXTRA 2
1 = AWB During Initial
2 = Flashing Yellow Arrow
3 = Disable Min Walk
4 = QuicNet System
5 = Ignore P/P on EV
6 =
7 = Reserved
8 =

APPENDIX:

LOS Analysis

Existing (2019) Conditions

HCM 6th Signalized Intersection Summary
1: Winona Ave & Hollywood Way

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	0	0	20	35	1	35	29	857	82	210	1853	20
Future Volume (veh/h)	0	0	20	35	1	35	29	857	82	210	1853	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	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	0	0	21	36	1	36	30	884	85	216	1910	21
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	151	126	162	143	126	263	2417	232	525	3935	43
Arrive On Green	0.00	0.00	0.08	0.08	0.08	0.08	0.04	0.74	0.74	0.06	0.76	0.76
Sat Flow, veh/h	1371	1870	1561	1371	1777	1561	1781	3275	315	1781	5207	57
Grp Volume(v), veh/h	0	0	21	36	1	36	30	480	489	216	1248	683
Grp Sat Flow(s),veh/h/ln	1371	1870	1561	1371	1777	1561	1781	1777	1813	1781	1702	1860
Q Serve(g_s), s	0.0	0.0	1.8	3.5	0.1	3.0	0.5	13.6	13.6	4.0	19.8	19.8
Cycle Q Clear(g_c), s	0.0	0.0	1.8	3.5	0.1	3.0	0.5	13.6	13.6	4.0	19.8	19.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.03
Lane Grp Cap(c), veh/h	51	151	126	162	143	126	263	1311	1338	525	2572	1406
V/C Ratio(X)	0.00	0.00	0.17	0.22	0.01	0.29	0.11	0.37	0.37	0.41	0.49	0.49
Avail Cap(c_a), veh/h	367	581	485	477	552	485	371	1311	1338	601	2572	1406
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)	0.00	0.00	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	0.0	0.0	60.0	60.8	59.2	60.6	4.8	6.6	6.6	4.4	6.6	6.6
Incr Delay (d2), s/veh	0.0	0.0	0.6	0.7	0.0	1.2	0.1	0.8	0.8	0.4	0.7	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(50%),veh/ln	0.0	0.0	0.7	1.2	0.0	1.3	0.2	5.1	5.2	1.3	6.8	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	60.6	61.4	59.2	61.8	4.9	7.4	7.4	4.8	7.3	7.8
LnGrp LOS	A	A	E	E	E	E	A	A	A	A	A	A
Approach Vol, veh/h		21			73			999			2147	
Approach Delay, s/veh		60.6			61.6			7.3			7.2	
Approach LOS		E			E			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.4	112.3		17.3	12.9	109.8		17.3				
Change Period (Y+Rc), s	4.9	6.5		6.0	4.9	6.5		6.0				
Max Green Setting (Gmax), s	14.0	65.1		43.5	14.0	65.1		43.5				
Max Q Clear Time (g_c+I1), s	2.5	21.8		5.5	6.0	15.6		3.8				
Green Ext Time (p_c), s	0.0	22.4		0.3	0.3	8.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			8.8									
HCM 6th LOS			A									

HCM 6th Signalized Intersection Summary
2: Thornton Ave & Hollywood Way

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	156	49	157	101	120	44	122	760	168	101	1508	248
Future Volume (veh/h)	156	49	157	101	120	44	122	760	168	101	1508	248
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.98		0.97	1.00		0.99	1.00		0.99
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	164	52	165	106	126	46	128	800	177	106	1587	261
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	577	276	227	317	376	131	217	2345	1142	373	1994	880
Arrive On Green	0.07	0.15	0.15	0.07	0.15	0.15	0.06	0.66	0.66	0.56	0.56	0.56
Sat Flow, veh/h	3456	1870	1537	1781	2563	890	1781	3554	1562	573	3554	1569
Grp Volume(v), veh/h	164	52	165	106	85	87	128	800	177	106	1587	261
Grp Sat Flow(s),veh/h/ln	1728	1870	1537	1781	1777	1677	1781	1777	1562	573	1777	1569
Q Serve(g_s), s	5.5	3.4	14.4	6.9	6.0	6.5	3.9	13.8	4.8	13.9	49.6	12.3
Cycle Q Clear(g_c), s	5.5	3.4	14.4	6.9	6.0	6.5	3.9	13.8	4.8	13.9	49.6	12.3
Prop In Lane	1.00		1.00	1.00		0.53	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	577	276	227	317	261	246	217	2345	1142	373	1994	880
V/C Ratio(X)	0.28	0.19	0.73	0.33	0.33	0.35	0.59	0.34	0.15	0.28	0.80	0.30
Avail Cap(c_a), veh/h	911	553	454	364	399	376	345	2345	1142	373	1994	880
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	45.1	52.3	57.0	45.7	53.5	53.7	27.1	10.5	5.7	16.6	24.4	16.2
Incr Delay (d2), s/veh	0.3	0.3	4.4	0.2	0.7	0.9	1.9	0.4	0.3	1.9	3.4	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(50%),veh/ln	2.4	1.6	5.9	3.1	2.8	2.8	2.6	5.5	1.6	2.0	21.3	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.4	52.6	61.4	45.9	54.3	54.6	29.0	10.8	6.0	18.5	27.8	17.0
LnGrp LOS	D	D	E	D	D	D	C	B	A	B	C	B
Approach Vol, veh/h		381			278			1105			1954	
Approach Delay, s/veh		53.3			51.2			12.2			25.8	
Approach LOS		D			D			B			C	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	13.8	85.0	14.6	26.5		98.9	14.4	26.7				
Change Period (Y+Rc), s	4.9	6.5	4.6	6.0		6.5	4.6	6.0				
Max Green Setting (Gmax), s	19.0	44.1	23.5	31.4		68.0	13.5	41.4				
Max Q Clear Time (g_c+I1), s	5.9	51.6	7.5	8.5		15.8	8.9	16.4				
Green Ext Time (p_c), s	0.2	0.0	0.4	0.9		7.7	0.0	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			26.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary

3: Victory Blvd & Hollywood Way

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	229	1000	192	111	525	122	87	738	89	230	1098	161
Future Volume (veh/h)	229	1000	192	111	525	122	87	738	89	230	1098	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	252	1099	211	122	577	134	96	811	98	253	1207	177
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	370	1256	667	186	1091	652	190	1165	611	321	1296	743
Arrive On Green	0.11	0.35	0.35	0.06	0.31	0.31	0.07	0.33	0.33	0.11	0.36	0.36
Sat Flow, veh/h	1781	3554	1576	1781	3554	1574	1781	3554	1569	1781	3554	1571
Grp Volume(v), veh/h	252	1099	211	122	577	134	96	811	98	253	1207	177
Grp Sat Flow(s),veh/h/ln	1781	1777	1576	1781	1777	1574	1781	1777	1569	1781	1777	1571
Q Serve(g_s), s	13.2	40.5	12.5	6.5	18.8	7.6	4.8	27.8	5.7	12.8	45.7	9.4
Cycle Q Clear(g_c), s	13.2	40.5	12.5	6.5	18.8	7.6	4.8	27.8	5.7	12.8	45.7	9.4
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	370	1256	667	186	1091	652	190	1165	611	321	1296	743
V/C Ratio(X)	0.68	0.88	0.32	0.65	0.53	0.21	0.50	0.70	0.16	0.79	0.93	0.24
Avail Cap(c_a), veh/h	370	1256	667	269	1091	652	219	1165	611	372	1330	758
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	29.0	42.4	26.9	35.7	40.1	26.3	34.0	41.0	27.9	30.2	42.8	22.0
Incr Delay (d2), s/veh	4.2	8.7	1.2	1.5	1.8	0.7	0.8	1.8	0.1	8.0	11.7	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(50%),veh/ln	6.1	19.2	5.0	2.9	8.6	3.0	2.1	12.5	2.2	6.2	22.1	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.2	51.1	28.1	37.1	42.0	27.0	34.7	42.8	28.0	38.1	54.5	22.2
LnGrp LOS	C	D	C	D	D	C	C	D	C	D	D	C
Approach Vol, veh/h		1562			833			1005			1637	
Approach Delay, s/veh		45.1			38.8			40.6			48.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	55.5	14.4	57.1	19.6	49.0	19.5	51.9
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	15.0	39.4	12.0	52.4	15.0	39.4	19.0	45.4
Max Q Clear Time (g_c+I1), s	8.5	42.5	6.8	47.7	15.2	20.8	14.8	29.8
Green Ext Time (p_c), s	0.1	0.0	0.0	3.3	0.0	4.2	0.2	5.4

Intersection Summary			
HCM 6th Ctrl Delay			44.3
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
4: Burbank Blvd & Hollywood Way

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	147	761	95	171	499	77	62	616	83	186	1211	79
Future Volume (veh/h)	147	761	95	171	499	77	62	616	83	186	1211	79
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
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	158	818	102	184	537	83	67	662	89	200	1302	85
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	386	1129	141	274	1270	557	146	1021	137	311	1218	79
Arrive On Green	0.08	0.36	0.36	0.08	0.36	0.36	0.05	0.33	0.33	0.09	0.36	0.36
Sat Flow, veh/h	1781	3172	396	1781	3554	1558	1781	3141	422	1781	3383	220
Grp Volume(v), veh/h	158	458	462	184	537	83	67	374	377	200	682	705
Grp Sat Flow(s),veh/h/ln	1781	1777	1791	1781	1777	1558	1781	1777	1786	1781	1777	1827
Q Serve(g_s), s	7.7	31.3	31.3	9.1	16.0	5.1	3.4	25.2	25.3	10.1	50.4	50.4
Cycle Q Clear(g_c), s	7.7	31.3	31.3	9.1	16.0	5.1	3.4	25.2	25.3	10.1	50.4	50.4
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.24	1.00		0.12
Lane Grp Cap(c), veh/h	386	632	637	274	1270	557	146	578	581	311	640	658
V/C Ratio(X)	0.41	0.72	0.72	0.67	0.42	0.15	0.46	0.65	0.65	0.64	1.07	1.07
Avail Cap(c_a), veh/h	437	632	637	322	1270	557	293	640	643	396	640	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	25.7	39.1	39.1	29.9	34.1	30.5	35.5	40.4	40.4	29.6	44.8	44.8
Incr Delay (d2), s/veh	0.3	7.1	7.0	2.8	1.0	0.6	0.8	2.0	2.0	0.9	54.8	55.8
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(50%),veh/ln	3.3	14.9	15.0	4.1	7.2	2.0	1.5	11.4	11.5	4.4	31.7	32.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	46.2	46.2	32.7	35.1	31.1	36.4	42.4	42.4	30.5	99.6	100.6
LnGrp LOS	C	D	D	C	D	C	D	D	D	C	F	F
Approach Vol, veh/h		1078			804			818			1587	
Approach Delay, s/veh		43.2			34.1			41.9			91.3	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	55.8	12.0	56.4	15.6	56.0	16.9	51.5
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	15.0	34.4	19.0	50.4	15.0	34.4	19.0	50.4
Max Q Clear Time (g_c+I1), s	11.1	33.3	5.4	52.4	9.7	18.0	12.1	27.3
Green Ext Time (p_c), s	0.1	0.6	0.1	0.0	0.1	3.6	0.2	5.0

Intersection Summary	
HCM 6th Ctrl Delay	59.1
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
5: Magnolia Blvd & Hollywood Way

10/27/2021

	↰	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	130	670	131	124	370	84	76	492	102	206	1375	152
Future Volume (veh/h)	130	670	131	124	370	84	76	492	102	206	1375	152
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.89	1.00		0.89	1.00		0.97	1.00		0.97
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	133	684	134	127	378	86	78	502	104	210	1403	155
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	828	329	207	818	325	202	1677	725	498	1752	759
Arrive On Green	0.07	0.23	0.23	0.07	0.23	0.23	0.05	0.47	0.47	0.08	0.49	0.49
Sat Flow, veh/h	1781	3554	1412	1781	3554	1410	1781	3554	1538	1781	3554	1540
Grp Volume(v), veh/h	133	684	134	127	378	86	78	502	104	210	1403	155
Grp Sat Flow(s),veh/h/ln	1781	1777	1412	1781	1777	1410	1781	1777	1538	1781	1777	1540
Q Serve(g_s), s	7.9	25.6	11.3	7.5	12.8	7.0	3.0	12.2	5.4	8.4	46.3	7.9
Cycle Q Clear(g_c), s	7.9	25.6	11.3	7.5	12.8	7.0	3.0	12.2	5.4	8.4	46.3	7.9
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	303	828	329	207	818	325	202	1677	725	498	1752	759
V/C Ratio(X)	0.44	0.83	0.41	0.61	0.46	0.26	0.39	0.30	0.14	0.42	0.80	0.20
Avail Cap(c_a), veh/h	419	1152	458	327	1152	457	309	1677	725	567	1752	759
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	37.6	51.0	45.5	39.9	46.4	44.2	25.2	22.7	20.9	16.8	29.7	20.0
Incr Delay (d2), s/veh	0.4	3.6	0.8	1.1	0.4	0.4	0.4	0.5	0.4	0.2	4.0	0.6
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(50%),veh/ln	3.5	11.8	4.1	3.4	5.8	2.5	1.3	5.3	2.1	3.5	20.5	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.0	54.6	46.3	41.0	46.8	44.6	25.7	23.2	21.4	17.1	33.7	20.6
LnGrp LOS	D	D	D	D	D	D	C	C	C	B	C	C
Approach Vol, veh/h		951			591			684			1768	
Approach Delay, s/veh		51.1			45.2			23.2			30.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	75.0	14.5	38.2	15.2	72.1	14.2	38.6
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	16.0	38.4	19.0	45.4	16.0	38.4	19.0	45.4
Max Q Clear Time (g_c+I1), s	5.0	48.3	9.9	14.8	10.4	14.2	9.5	27.6
Green Ext Time (p_c), s	0.1	0.0	0.1	3.0	0.1	3.9	0.1	5.0

Intersection Summary	
HCM 6th Ctrl Delay	36.4
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
6: Hollywood Way & Verdugo Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	141	574	163	192	264	64	24	470	59	92	1302	117
Future Volume (veh/h)	141	574	163	192	264	64	24	470	59	92	1302	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	152	617	175	206	284	69	26	505	63	99	1400	126
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	435	647	542	229	687	575	108	1271	553	350	1332	581
Arrive On Green	0.07	0.35	0.35	0.09	0.37	0.37	0.03	0.36	0.36	0.05	0.37	0.37
Sat Flow, veh/h	1781	1870	1566	1781	1870	1567	1781	3554	1547	1781	3554	1549
Grp Volume(v), veh/h	152	617	175	206	284	69	26	505	63	99	1400	126
Grp Sat Flow(s),veh/h/ln	1781	1870	1566	1781	1870	1567	1781	1777	1547	1781	1777	1549
Q Serve(g_s), s	7.6	45.1	11.5	10.6	15.9	4.1	1.3	14.9	3.8	4.9	52.5	7.8
Cycle Q Clear(g_c), s	7.6	45.1	11.5	10.6	15.9	4.1	1.3	14.9	3.8	4.9	52.5	7.8
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	435	647	542	229	687	575	108	1271	553	350	1332	581
V/C Ratio(X)	0.35	0.95	0.32	0.90	0.41	0.12	0.24	0.40	0.11	0.28	1.05	0.22
Avail Cap(c_a), veh/h	490	668	559	246	687	575	293	1271	553	505	1332	581
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	26.9	44.7	33.7	34.9	33.1	29.3	35.4	33.7	30.1	27.0	43.8	29.8
Incr Delay (d2), s/veh	0.2	23.6	0.3	29.9	0.4	0.1	0.4	0.9	0.4	0.2	39.3	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(50%),veh/ln	3.3	25.0	4.5	6.5	7.4	1.6	0.6	6.7	1.5	2.1	30.1	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	68.3	34.1	64.8	33.5	29.4	35.9	34.6	30.5	27.2	83.1	30.6
LnGrp LOS	C	E	C	E	C	C	D	C	C	C	F	C
Approach Vol, veh/h		944			559			594			1625	
Approach Delay, s/veh		55.3			44.5			34.2			75.6	
Approach LOS		E			D			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	58.5	14.7	57.4	11.9	56.1	17.7	54.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	35.0	14.0	50.0	19.0	35.0	14.0	50.0
Max Q Clear Time (g_c+I1), s	3.3	54.5	9.6	17.9	6.9	16.9	12.6	47.1
Green Ext Time (p_c), s	0.0	0.0	0.1	2.0	0.1	3.4	0.0	1.3

Intersection Summary			
HCM 6th Ctrl Delay			59.2
HCM 6th LOS			E

HCM 6th Signalized Intersection Summary
7: Riverside Dr & Alameda Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	✥			✥	
Traffic Volume (veh/h)	37	826	748	10	465	64	127	21	9	40	18	17
Future Volume (veh/h)	37	826	748	10	465	64	127	21	9	40	18	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.98	1.00		0.97	1.00		0.95
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	38	852	771	10	479	66	81	92	9	41	19	18
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	655	2481	1252	247	2185	300	190	179	17	56	26	25
Arrive On Green	0.70	0.70	0.70	1.00	1.00	1.00	0.11	0.11	0.11	0.06	0.06	0.06
Sat Flow, veh/h	853	3554	1551	310	3130	429	1781	1672	164	910	422	399
Grp Volume(v), veh/h	38	852	771	10	271	274	81	0	101	78	0	0
Grp Sat Flow(s),veh/h/ln	853	1777	1551	310	1777	1782	1781	0	1835	1731	0	0
Q Serve(g_s), s	1.7	11.4	23.1	0.6	0.0	0.0	5.1	0.0	6.2	5.3	0.0	0.0
Cycle Q Clear(g_c), s	1.7	11.4	23.1	12.0	0.0	0.0	5.1	0.0	6.2	5.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.09	0.53		0.23
Lane Grp Cap(c), veh/h	655	2481	1252	247	1241	1244	190	0	196	107	0	0
V/C Ratio(X)	0.06	0.34	0.62	0.04	0.22	0.22	0.43	0.00	0.52	0.73	0.00	0.00
Avail Cap(c_a), veh/h	655	2481	1252	247	1241	1244	683	0	704	173	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.81	0.81	0.81	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.7	7.2	4.5	0.8	0.0	0.0	50.2	0.0	50.7	55.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.4	2.3	0.2	0.3	0.3	1.5	0.0	2.1	9.2	0.0	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(50%),veh/ln	0.3	4.2	11.8	0.0	0.1	0.1	2.4	0.0	3.0	2.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.9	7.6	6.8	1.1	0.3	0.3	51.7	0.0	52.7	64.5	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	E	A	A
Approach Vol, veh/h		1661			555			182			78	
Approach Delay, s/veh		7.2			0.3			52.3			64.5	
Approach LOS		A			A			D			E	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		89.8		12.4		89.8		17.8				
Change Period (Y+Rc), s		6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s		46.0		12.0		46.0		46.0				
Max Q Clear Time (g_c+I1), s		25.1		7.3		14.0		8.2				
Green Ext Time (p_c), s		10.3		0.1		3.9		0.8				
Intersection Summary												
HCM 6th Ctrl Delay			10.8									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
8: Pass Ave & Alameda Ave

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	91	774	34	29	353	79	29	104	56	421	934	137
Future Volume (veh/h)	91	774	34	29	353	79	29	104	56	421	934	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	1.00		0.97	0.98		0.97
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	95	806	35	30	368	82	30	108	58	439	973	143
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	270	837	36	146	632	139	264	825	411	755	1520	223
Arrive On Green	0.13	0.48	0.48	0.04	0.22	0.22	0.04	0.36	0.36	0.17	0.49	0.49
Sat Flow, veh/h	1781	3464	150	1781	2876	632	1781	2267	1130	1781	3097	455
Grp Volume(v), veh/h	95	413	428	30	225	225	30	83	83	439	558	558
Grp Sat Flow(s),veh/h/ln	1781	1777	1838	1781	1777	1731	1781	1777	1620	1781	1777	1775
Q Serve(g_s), s	4.8	27.0	27.0	1.5	13.6	13.9	1.2	3.7	4.1	17.7	28.0	28.0
Cycle Q Clear(g_c), s	4.8	27.0	27.0	1.5	13.6	13.9	1.2	3.7	4.1	17.7	28.0	28.0
Prop In Lane	1.00		0.08	1.00		0.37	1.00		0.70	1.00		0.26
Lane Grp Cap(c), veh/h	270	429	444	146	391	381	264	646	589	755	872	871
V/C Ratio(X)	0.35	0.96	0.96	0.21	0.58	0.59	0.11	0.13	0.14	0.58	0.64	0.64
Avail Cap(c_a), veh/h	305	429	444	219	429	418	397	646	589	810	872	871
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.94	0.94	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	30.5	30.5	35.8	41.8	42.0	22.3	25.5	25.6	16.4	22.7	22.7
Incr Delay (d2), s/veh	0.3	32.6	32.0	0.3	1.6	1.8	0.1	0.4	0.5	0.9	3.6	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(50%),veh/ln	2.0	12.7	13.1	0.7	6.1	6.2	0.5	1.7	1.7	7.2	12.3	12.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	63.1	62.5	36.1	43.4	43.8	22.3	25.9	26.1	17.3	26.3	26.3
LnGrp LOS	C	E	E	D	D	D	C	C	C	B	C	C
Approach Vol, veh/h		936			480			196			1555	
Approach Delay, s/veh		59.6			43.1			25.4			23.8	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	35.0	10.1	64.9	12.7	32.4	25.3	49.6
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	29.0	14.0	45.0	10.0	29.0	24.0	35.0
Max Q Clear Time (g_c+I1), s	3.5	29.0	3.2	30.0	6.8	15.9	19.7	6.1
Green Ext Time (p_c), s	0.0	0.0	0.0	6.7	0.0	2.2	0.6	1.0

Intersection Summary	
HCM 6th Ctrl Delay	37.4
HCM 6th LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑↑	↑↑↱		↰	↱↱
Traffic Volume (vph)	190	1494	1435	36	89	743
Future Volume (vph)	190	1494	1435	36	89	743
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	5085	5059		1770	2787
Flt Permitted	0.10	1.00	1.00		0.95	1.00
Satd. Flow (perm)	194	5085	5059		1770	2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	196	1540	1479	37	92	766
RTOR Reduction (vph)	0	0	1	0	0	357
Lane Group Flow (vph)	196	1540	1515	0	92	409
Confl. Peds. (#/hr)	34			34		
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	3 5	2	6		4	4 3
Permitted Phases	2	3				
Actuated Green, G (s)	92.4	92.4	64.1		11.6	31.6
Effective Green, g (s)	92.4	92.4	64.1		11.6	31.6
Actuated g/C Ratio	0.77	0.77	0.53		0.10	0.26
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		2.0	
Lane Grp Cap (vph)	455	4169	2702		171	733
v/s Ratio Prot	0.08	c0.24	c0.30		0.05	c0.15
v/s Ratio Perm	0.25	0.06				
v/c Ratio	0.43	0.37	0.56		0.54	0.56
Uniform Delay, d1	10.8	4.4	18.6		51.6	38.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.0	0.8		1.6	0.5
Delay (s)	11.0	4.5	19.4		53.3	38.7
Level of Service	B	A	B		D	D
Approach Delay (s)		5.2	19.4		40.3	
Approach LOS		A	B		D	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
10: Alameda Ave & Hollywood Way

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑↱		↰	↑↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Traffic Volume (veh/h)	72	648	141	154	853	257	57	233	49	186	1289	520
Future Volume (veh/h)	72	648	141	154	853	257	57	233	49	186	1289	520
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.98
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	73	661	144	157	870	262	58	238	50	190	1315	531
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	134	855	183	185	1148	348	114	1541	673	259	1579	690
Arrive On Green	0.07	0.20	0.20	0.10	0.22	0.22	0.06	0.43	0.43	0.07	0.44	0.44
Sat Flow, veh/h	1781	4187	897	1781	5106	1547	1781	3554	1552	3456	3554	1553
Grp Volume(v), veh/h	73	535	270	157	870	262	58	238	50	190	1315	531
Grp Sat Flow(s),veh/h/ln	1781	1702	1680	1781	1702	1547	1781	1777	1552	1728	1777	1553
Q Serve(g_s), s	4.7	17.8	18.3	10.4	19.1	14.9	3.8	4.9	2.3	6.5	39.2	23.7
Cycle Q Clear(g_c), s	4.7	17.8	18.3	10.4	19.1	14.9	3.8	4.9	2.3	6.5	39.2	23.7
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	134	695	343	185	1148	348	114	1541	673	259	1579	690
V/C Ratio(X)	0.55	0.77	0.79	0.85	0.76	0.75	0.51	0.15	0.07	0.73	0.83	0.77
Avail Cap(c_a), veh/h	208	851	420	223	1277	387	148	1541	673	432	1579	690
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	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.5	45.1	45.3	52.8	43.5	26.8	54.3	20.6	19.9	54.3	29.4	13.2
Incr Delay (d2), s/veh	1.3	3.5	7.8	23.8	2.7	8.1	1.3	0.2	0.2	1.5	5.3	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(50%),veh/ln	2.2	7.8	8.3	5.9	8.3	6.3	1.7	2.1	0.9	2.9	17.5	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	48.6	53.1	76.6	46.1	34.9	55.6	20.8	20.1	55.9	34.7	21.3
LnGrp LOS	D	D	D	E	D	C	E	C	C	E	C	C
Approach Vol, veh/h		878			1289			346			2036	
Approach Delay, s/veh		50.5			47.6			26.6			33.2	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.7	59.3	15.0	33.0	14.0	58.0	17.5	30.5				
Change Period (Y+Rc), s	5.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	10.0	43.0	14.0	30.0	15.0	38.0	15.0	30.0				
Max Q Clear Time (g_c+I1), s	5.8	41.2	6.7	21.1	8.5	6.9	12.4	20.3				
Green Ext Time (p_c), s	0.0	1.6	0.0	5.5	0.2	1.8	0.1	3.7				
Intersection Summary												
HCM 6th Ctrl Delay			40.1									
HCM 6th LOS			D									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	44	441	128	12	156	80	10	214	5	378	737	408
Future Volume (veh/h)	44	441	128	12	156	80	10	214	5	378	737	408
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.99		0.96	1.00		0.99	0.99		0.99
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	46	464	135	13	164	84	11	225	5	398	776	429
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	252	464	134	117	318	153	305	1880	42	812	2325	1026
Arrive On Green	0.07	0.17	0.17	0.03	0.14	0.14	1.00	1.00	1.00	0.14	1.00	1.00
Sat Flow, veh/h	1781	2698	778	1781	2289	1104	463	3553	79	1781	3554	1568
Grp Volume(v), veh/h	46	304	295	13	125	123	11	112	118	398	776	429
Grp Sat Flow(s),veh/h/ln	1781	1777	1699	1781	1777	1616	463	1777	1855	1781	1777	1568
Q Serve(g_s), s	2.5	20.5	20.6	0.7	7.8	8.5	0.0	0.0	0.0	10.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	20.5	20.6	0.7	7.8	8.5	0.0	0.0	0.0	10.0	0.0	0.0
Prop In Lane	1.00		0.46	1.00		0.68	1.00		0.04	1.00		1.00
Lane Grp Cap(c), veh/h	252	305	292	117	247	224	305	940	982	812	2325	1026
V/C Ratio(X)	0.18	1.00	1.01	0.11	0.51	0.55	0.04	0.12	0.12	0.49	0.33	0.42
Avail Cap(c_a), veh/h	284	305	292	223	311	283	305	940	982	812	2325	1026
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	0.41	0.41	0.41
Uniform Delay (d), s/veh	38.6	49.6	49.7	42.7	47.9	48.2	0.0	0.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.3	50.3	55.1	0.3	1.6	2.1	0.2	0.2	0.2	0.1	0.2	0.5
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(50%),veh/ln	1.1	13.3	13.2	0.3	3.6	3.6	0.0	0.1	0.1	4.5	0.1	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	100.0	104.8	43.0	49.5	50.3	0.2	0.2	0.2	11.0	0.2	0.5
LnGrp LOS	D	F	F	D	D	D	A	A	A	B	A	A
Approach Vol, veh/h		645			261			241			1603	
Approach Delay, s/veh		97.8			49.5			0.2			2.9	
Approach LOS		F			D			A			A	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	12.8	22.7	15.0	69.5	8.9	26.6		84.5
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	10.0	21.0	10.0	57.0	11.0	20.0		72.0
Max Q Clear Time (g_c+I1), s	4.5	10.5	12.0	2.0	2.7	22.6		2.0
Green Ext Time (p_c), s	0.0	1.0	0.0	1.6	0.0	0.0		9.1

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
12: Hollywood Way & Olive Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱			↰↑↱		↰	↑	↱↱
Traffic Volume (veh/h)	200	1053	80	55	1024	62	14	13	13	76	201	455
Future Volume (veh/h)	200	1053	80	55	1024	62	14	13	13	76	201	455
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		0.96	0.96		0.96
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	206	1086	82	57	1056	64	14	13	13	78	207	469
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	427	2863	216	401	2854	173	139	163	183	326	395	775
Arrive On Green	0.07	0.59	0.59	0.06	0.58	0.58	0.21	0.21	0.21	0.35	0.35	0.35
Sat Flow, veh/h	1781	4837	365	1781	4914	297	401	773	865	1335	1870	2683
Grp Volume(v), veh/h	206	764	404	57	731	389	17	0	23	78	207	469
Grp Sat Flow(s),veh/h/ln	1781	1702	1798	1781	1702	1808	533	0	1506	1335	1870	1341
Q Serve(g_s), s	5.4	14.2	14.2	1.4	13.8	13.8	1.1	0.0	1.4	5.2	10.5	17.4
Cycle Q Clear(g_c), s	5.4	14.2	14.2	1.4	13.8	13.8	11.7	0.0	1.4	6.6	10.5	17.4
Prop In Lane	1.00		0.20	1.00		0.16	0.81		0.57	1.00		1.00
Lane Grp Cap(c), veh/h	427	2015	1064	401	1977	1050	167	0	318	326	395	775
V/C Ratio(X)	0.48	0.38	0.38	0.14	0.37	0.37	0.10	0.00	0.07	0.24	0.52	0.60
Avail Cap(c_a), veh/h	590	2015	1064	584	1977	1050	264	0	489	478	608	1081
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	9.4	12.9	12.9	8.6	13.4	13.4	41.9	0.0	37.9	33.3	34.1	30.2
Incr Delay (d2), s/veh	0.8	0.5	1.0	0.2	0.5	1.0	0.3	0.0	0.1	0.4	1.0	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(50%),veh/ln	2.1	5.4	5.9	0.5	5.3	5.8	0.5	0.0	0.5	1.6	4.5	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	13.4	13.9	8.8	14.0	14.4	42.2	0.0	38.0	33.7	35.1	30.9
LnGrp LOS	B	B	B	A	B	B	D	A	D	C	D	C
Approach Vol, veh/h		1374			1177			40			754	
Approach Delay, s/veh		13.1			13.9			39.8			32.3	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.0	75.7		30.3	12.7	77.0		30.3				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	20.0	45.0		39.0	20.0	45.0		39.0				
Max Q Clear Time (g_c+I1), s	7.4	15.8		19.4	3.4	16.2		13.7				
Green Ext Time (p_c), s	0.4	9.0		3.4	0.1	9.4		0.2				

Intersection Summary			
HCM 6th Ctrl Delay			18.0
HCM 6th LOS			B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	16	726	310	64	972	90	146	151	45	83	717	21
Future Volume (veh/h)	16	726	310	64	972	90	146	151	45	83	717	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	0.98		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	16	748	320	66	1002	93	151	156	46	86	739	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	156	946	412	256	1115	487	327	1365	388	607	1788	
Arrive On Green	0.04	0.27	0.27	0.09	0.31	0.31	0.50	0.50	0.50	0.50	0.50	0.00
Sat Flow, veh/h	1781	3554	1546	1781	3554	1552	716	2712	771	1160	3554	1585
Grp Volume(v), veh/h	16	748	320	66	1002	93	151	100	102	86	739	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1546	1781	1777	1552	716	1777	1706	1160	1777	1585
Q Serve(g_s), s	0.8	23.5	23.0	2.9	32.3	5.2	20.1	3.6	3.8	5.1	15.7	0.0
Cycle Q Clear(g_c), s	0.8	23.5	23.0	2.9	32.3	5.2	35.8	3.6	3.8	8.9	15.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.45	1.00		1.00
Lane Grp Cap(c), veh/h	156	946	412	256	1115	487	327	894	858	607	1788	
V/C Ratio(X)	0.10	0.79	0.78	0.26	0.90	0.19	0.46	0.11	0.12	0.14	0.41	
Avail Cap(c_a), veh/h	365	1185	515	379	1185	517	327	894	858	607	1788	
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	32.1	40.9	40.7	27.7	39.3	30.1	29.9	15.7	15.7	18.1	18.7	0.0
Incr Delay (d2), s/veh	0.2	2.9	5.9	0.4	9.0	0.2	4.6	0.3	0.3	0.5	0.7	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(50%),veh/ln	0.3	10.6	9.4	1.3	15.3	2.0	3.9	1.5	1.5	1.5	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	43.9	46.6	28.1	48.4	30.2	34.5	15.9	16.0	18.6	19.4	0.0
LnGrp LOS	C	D	D	C	D	C	C	B	B	B	B	
Approach Vol, veh/h		1084			1161			353			825	A
Approach Delay, s/veh		44.5			45.8			23.9			19.3	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.7	37.9		66.4	10.0	43.7		66.4
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	19.0	40.0		44.0	19.0	40.0		44.0
Max Q Clear Time (g_c+I1), s	4.9	25.5		17.7	2.8	34.3		37.8
Green Ext Time (p_c), s	0.1	5.6		6.0	0.0	3.3		1.2

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBT	NBR	SBT	SBR
Lane Configurations		↰↰	↑↑		↰↰	↑↑			↑↑	↱	↑↑	↱
Traffic Volume (vph)	12	171	515	21	235	358	13	11	439	331	949	420
Future Volume (vph)	12	171	515	21	235	358	13	11	439	331	949	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	8.0		7.5	8.0			6.5	7.5	6.5	3.0
Lane Util. Factor		0.97	0.95		0.97	0.95			0.95	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	0.98	1.00	0.95
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Frt		1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00			1.00	1.00	1.00	1.00
Satd. Flow (prot)		3433	3514		3433	3501			3539	1556	3539	1508
Flt Permitted		0.95	1.00		0.95	1.00			1.00	1.00	1.00	1.00
Satd. Flow (perm)		3433	3514		3433	3501			3539	1556	3539	1508
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	12	176	531	22	242	369	13	11	453	341	978	433
RTOR Reduction (vph)	0	0	2	0	0	2	0	0	0	0	0	0
Lane Group Flow (vph)	0	188	551	0	242	391	0	0	453	341	978	441
Confl. Peds. (#/hr)	4	12		14	15		4	12		10		7
Turn Type	Prot	Prot	NA		Prot	NA			NA	custom	NA	custom
Protected Phases	1	1	6		5	2			8		4	
Permitted Phases										5 7 8		3 4
Actuated Green, G (s)		11.9	24.5		13.3	25.9			40.8	67.0	40.2	47.2
Effective Green, g (s)		11.9	24.5		13.3	25.9			40.8	57.5	40.2	47.2
Actuated g/C Ratio		0.11	0.23		0.12	0.24			0.38	0.54	0.38	0.44
Clearance Time (s)		7.5	8.0		7.5	8.0			6.5		6.5	
Vehicle Extension (s)		2.5	4.0		2.5	4.0			3.0		3.0	
Lane Grp Cap (vph)		381	804		426	847			1349	836	1329	665
v/s Ratio Prot		0.05	c0.16		c0.07	0.11			0.13		c0.28	
v/s Ratio Perm										0.22		c0.29
v/c Ratio		0.49	0.68		0.57	0.46			0.34	0.41	0.74	0.66
Uniform Delay, d1		44.7	37.7		44.1	34.6			23.5	14.7	28.8	23.6
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		0.7	2.6		1.4	0.5			0.1	0.2	2.2	2.5
Delay (s)		45.4	40.4		45.6	35.2			23.6	14.9	31.0	26.1
Level of Service		D	D		D	D			C	B	C	C
Approach Delay (s)			41.6			39.1			19.9		29.5	
Approach LOS			D			D			B		C	

Intersection Summary			
HCM 2000 Control Delay	31.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	107.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
14: Alameda Ave & Ontario St & Olive Ave

10/27/2021

Movement	SBR2	SER2
Lane Configurations		↱
Traffic Volume (vph)	8	23
Future Volume (vph)	8	23
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		7.5
Lane Util. Factor		1.00
Frpb, ped/bikes		1.00
Flpb, ped/bikes		1.00
Frt		0.86
Flt Protected		1.00
Satd. Flow (prot)		1611
Flt Permitted		1.00
Satd. Flow (perm)		1611
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	8	24
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	24
Confl. Peds. (#/hr)	4	7
Turn Type		Over
Protected Phases		1
Permitted Phases		
Actuated Green, G (s)		11.9
Effective Green, g (s)		11.9
Actuated g/C Ratio		0.11
Clearance Time (s)		7.5
Vehicle Extension (s)		2.5
Lane Grp Cap (vph)		179
v/s Ratio Prot		0.01
v/s Ratio Perm		
v/c Ratio		0.13
Uniform Delay, d1		42.9
Progression Factor		1.00
Incremental Delay, d2		0.2
Delay (s)		43.2
Level of Service		D
Approach Delay (s)		
Approach LOS		

Intersection Summary

HCM 6th Signalized Intersection Summary
15: Buena Vista St & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱			✥	
Traffic Volume (veh/h)	21	1200	111	101	570	9	145	107	91	35	157	9
Future Volume (veh/h)	21	1200	111	101	570	9	145	107	91	35	157	9
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		0.99	0.99		0.99
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	21	1224	113	103	582	9	148	109	93	36	160	9
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	1476	136	239	2028	31	382	274	234	79	228	12
Arrive On Green	0.45	0.45	0.45	0.06	0.57	0.57	0.09	0.29	0.29	0.16	0.16	0.16
Sat Flow, veh/h	824	3288	303	1781	3582	55	1781	930	793	205	1453	76
Grp Volume(v), veh/h	21	660	677	103	289	302	148	0	202	205	0	0
Grp Sat Flow(s),veh/h/ln	824	1777	1814	1781	1777	1860	1781	0	1723	1734	0	0
Q Serve(g_s), s	1.3	29.3	29.5	2.6	7.6	7.6	6.0	0.0	8.4	5.7	0.0	0.0
Cycle Q Clear(g_c), s	1.3	29.3	29.5	2.6	7.6	7.6	6.0	0.0	8.4	10.0	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.03	1.00		0.46	0.18		0.04
Lane Grp Cap(c), veh/h	450	798	815	239	1006	1053	382	0	508	319	0	0
V/C Ratio(X)	0.05	0.83	0.83	0.43	0.29	0.29	0.39	0.00	0.40	0.64	0.00	0.00
Avail Cap(c_a), veh/h	450	798	815	308	1006	1053	395	0	737	530	0	0
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	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.0	21.7	21.8	17.8	10.1	10.1	26.4	0.0	25.3	36.1	0.0	0.0
Incr Delay (d2), s/veh	0.2	9.6	9.6	0.9	0.7	0.7	0.5	0.0	0.5	2.2	0.0	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(50%),veh/ln	0.3	13.6	13.9	1.0	2.9	3.1	2.5	0.0	3.4	4.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.2	31.4	31.4	18.7	10.8	10.8	26.9	0.0	25.8	38.2	0.0	0.0
LnGrp LOS	B	C	C	B	B	B	C	A	C	D	A	A
Approach Vol, veh/h		1358			694			350			205	
Approach Delay, s/veh		31.1			12.0			26.3			38.2	
Approach LOS		C			B			C			D	

Timer - Assigned Phs		2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s		57.5		32.5	10.5	46.9	12.4	20.1				
Change Period (Y+Rc), s		6.5		6.0	5.0	6.5	4.6	6.0				
Max Green Setting (Gmax), s		39.0		38.5	9.0	25.0	8.5	25.4				
Max Q Clear Time (g_c+I1), s		9.6		10.4	4.6	31.5	8.0	12.0				
Green Ext Time (p_c), s		4.7		1.2	0.1	0.0	0.0	0.9				

Intersection Summary			
HCM 6th Ctrl Delay			25.9
HCM 6th LOS			C

HCM 6th Signalized Intersection Summary
16: San Fernando Blvd & Buena Vista St

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	94	582	175	35	135	164	22	616	17	236	1144	219
Future Volume (veh/h)	94	582	175	35	135	164	22	616	17	236	1144	219
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	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	98	606	182	36	141	171	23	642	18	246	1192	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	396	739	221	165	904	399	48	1244	35	283	1733	
Arrive On Green	0.06	0.27	0.27	0.03	0.25	0.25	0.03	0.35	0.35	0.16	0.49	0.00
Sat Flow, veh/h	1781	2688	806	1781	3554	1570	1781	3529	99	1781	3554	1585
Grp Volume(v), veh/h	98	400	388	36	141	171	23	323	337	246	1192	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1717	1781	1777	1570	1781	1777	1851	1781	1777	1585
Q Serve(g_s), s	4.8	25.4	25.5	1.8	3.7	11.0	1.5	17.4	17.4	16.3	31.2	0.0
Cycle Q Clear(g_c), s	4.8	25.4	25.5	1.8	3.7	11.0	1.5	17.4	17.4	16.3	31.2	0.0
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	396	488	472	165	904	399	48	626	652	283	1733	
V/C Ratio(X)	0.25	0.82	0.82	0.22	0.16	0.43	0.48	0.52	0.52	0.87	0.69	
Avail Cap(c_a), veh/h	592	589	569	398	1178	521	375	1105	1151	591	2652	
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	30.5	40.9	41.0	33.4	34.9	37.6	57.9	30.9	30.9	49.5	23.8	0.0
Incr Delay (d2), s/veh	0.1	8.4	8.8	0.2	0.1	1.0	2.8	0.9	0.9	9.5	1.0	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(50%),veh/ln	2.1	12.2	11.9	0.8	1.6	4.4	0.7	7.6	7.9	8.0	13.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.6	49.4	49.8	33.7	35.0	38.7	60.7	31.9	31.8	59.0	24.9	0.0
LnGrp LOS	C	D	D	C	D	D	E	C	C	E	C	
Approach Vol, veh/h		886			348			683			1438	A
Approach Delay, s/veh		47.5			36.7			32.8			30.7	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.8	39.2	7.8	64.8	11.3	36.7	24.2	48.5
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	40.0	25.4	90.0	20.0	40.0	40.0	75.0
Max Q Clear Time (g_c+I1), s	3.8	27.5	3.5	33.2	6.8	13.0	18.3	19.4
Green Ext Time (p_c), s	0.0	5.4	0.0	25.7	0.1	2.2	0.9	7.1

Intersection Summary	
HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
17: Buena Vista St & Empire Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱	↰↰	↑↱	
Traffic Volume (veh/h)	68	252	168	167	120	55	145	465	356	114	874	93
Future Volume (veh/h)	68	252	168	167	120	55	145	465	356	114	874	93
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	70	260	173	172	124	57	149	479	367	118	901	96
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	544	237	225	427	186	367	2023	897	167	1837	196
Arrive On Green	0.05	0.15	0.15	0.07	0.18	0.18	0.05	0.57	0.57	0.05	0.57	0.57
Sat Flow, veh/h	1781	3554	1548	3456	2395	1040	1781	3554	1575	3456	3238	345
Grp Volume(v), veh/h	70	260	173	172	90	91	149	479	367	118	494	503
Grp Sat Flow(s),veh/h/ln	1781	1777	1548	1728	1777	1658	1781	1777	1575	1728	1777	1806
Q Serve(g_s), s	5.0	9.4	12.7	6.9	6.1	6.7	4.9	9.4	11.9	4.7	23.4	23.4
Cycle Q Clear(g_c), s	5.0	9.4	12.7	6.9	6.1	6.7	4.9	9.4	11.9	4.7	23.4	23.4
Prop In Lane	1.00		1.00	1.00		0.63	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	162	544	237	225	317	296	367	2023	897	167	1008	1024
V/C Ratio(X)	0.43	0.48	0.73	0.76	0.28	0.31	0.41	0.24	0.41	0.71	0.49	0.49
Avail Cap(c_a), veh/h	282	863	376	469	470	438	468	2023	897	296	1008	1024
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	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	54.2	40.6	64.4	49.8	50.0	13.8	15.0	7.1	65.7	18.2	18.2
Incr Delay (d2), s/veh	1.4	0.7	4.3	4.0	0.5	0.6	0.5	0.3	1.3	4.1	1.7	1.7
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(50%),veh/ln	2.3	4.3	5.2	3.2	2.8	2.8	2.0	3.9	4.1	2.2	10.0	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.6	54.8	44.9	68.4	50.3	50.6	14.3	15.3	8.4	69.7	19.9	19.8
LnGrp LOS	E	D	D	E	D	D	B	B	A	E	B	B
Approach Vol, veh/h		503			353			995			1115	
Approach Delay, s/veh		51.7			59.2			12.6			25.1	
Approach LOS		D			E			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	27.4	12.0	85.4	11.6	31.0	11.7	85.7
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	* 34	15.0	50.0	16.0	37.0	12.0	53.0
Max Q Clear Time (g_c+I1), s	8.9	14.7	6.9	25.4	7.0	8.7	6.7	13.9
Green Ext Time (p_c), s	0.3	2.2	0.2	7.2	0.1	1.0	0.1	6.5

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

18: Vanowen St/Driveway & Buena Vista St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↱		✥		↰	↑↑			↑↑	↱
Traffic Volume (vph)	299	0	534	0	0	0	151	791	0	0	917	216
Future Volume (vph)	299	0	534	0	0	0	151	791	0	0	917	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7				6.0	6.0			6.0	6.0
Lane Util. Factor	0.95	0.95	1.00				1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98				1.00	1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1681	1553				1770	3539			3539	1552
Flt Permitted	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1681	1553				1770	3539			3539	1552
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	318	0	568	0	0	0	161	841	0	0	976	230
RTOR Reduction (vph)	0	0	440	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	159	159	128	0	0	0	161	841	0	0	976	230
Confl. Peds. (#/hr)			3	3			3		4	4		3
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4			3		5	2			6	
Permitted Phases			4	3								6
Actuated Green, G (s)	24.7	24.7	24.7				17.4	108.1			84.7	84.7
Effective Green, g (s)	24.7	24.7	24.7				17.4	108.1			84.7	84.7
Actuated g/C Ratio	0.17	0.17	0.17				0.12	0.75			0.59	0.59
Clearance Time (s)	5.7	5.7	5.7				6.0	6.0			6.0	6.0
Vehicle Extension (s)	3.5	3.5	3.5				2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	287	287	265				213	2647			2074	909
v/s Ratio Prot	c0.09	0.09					c0.09	0.24			c0.28	
v/s Ratio Perm			0.08									0.15
v/c Ratio	0.55	0.55	0.48				0.76	0.32			0.47	0.25
Uniform Delay, d1	54.9	54.9	54.1				61.5	6.0			17.1	14.5
Progression Factor	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2	2.5	2.5	1.6				12.7	0.3			0.8	0.7
Delay (s)	57.4	57.4	55.8				74.2	6.3			17.9	15.2
Level of Service	E	E	E				E	A			B	B
Approach Delay (s)		56.3			0.0			17.2			17.3	
Approach LOS		E			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	144.5	Sum of lost time (s)	22.3
Intersection Capacity Utilization	68.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
19: Victory Blvd & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	142	776	292	92	544	207	200	599	42	393	1121	59
Future Volume (veh/h)	142	776	292	92	544	207	200	599	42	393	1121	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	146	800	301	95	561	213	206	618	43	405	1156	61
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	245	883	388	164	802	352	295	1408	620	526	1637	722
Arrive On Green	0.08	0.25	0.25	0.05	0.23	0.23	0.08	0.40	0.40	0.15	0.46	0.46
Sat Flow, veh/h	1781	3554	1560	1781	3554	1558	1781	3554	1565	1781	3554	1568
Grp Volume(v), veh/h	146	800	301	95	561	213	206	618	43	405	1156	61
Grp Sat Flow(s),veh/h/ln	1781	1777	1560	1781	1777	1558	1781	1777	1565	1781	1777	1568
Q Serve(g_s), s	8.7	30.6	25.1	5.7	20.3	17.2	9.5	17.8	2.4	18.1	36.4	3.1
Cycle Q Clear(g_c), s	8.7	30.6	25.1	5.7	20.3	17.2	9.5	17.8	2.4	18.1	36.4	3.1
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	245	883	388	164	802	352	295	1408	620	526	1637	722
V/C Ratio(X)	0.60	0.91	0.78	0.58	0.70	0.61	0.70	0.44	0.07	0.77	0.71	0.08
Avail Cap(c_a), veh/h	349	924	406	309	924	405	576	1408	620	692	1637	722
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	38.6	51.0	49.0	41.6	49.8	48.6	26.2	30.9	26.2	20.5	30.2	21.2
Incr Delay (d2), s/veh	1.7	12.0	8.8	2.4	2.0	2.0	2.2	1.0	0.2	3.4	2.6	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(50%),veh/ln	3.9	15.1	10.8	2.6	9.3	6.9	4.2	7.9	0.9	7.9	16.1	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	63.0	57.8	44.0	51.8	50.6	28.4	31.9	26.5	23.8	32.8	21.4
LnGrp LOS	D	E	E	D	D	D	C	C	C	C	C	C
Approach Vol, veh/h		1247			869			867			1622	
Approach Delay, s/veh		59.1			50.6			30.8			30.1	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.2	40.8	16.5	70.5	15.4	37.6	25.5	61.5
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	19.0	36.4	34.0	29.4	19.0	36.4	34.0	29.4
Max Q Clear Time (g_c+I1), s	7.7	32.6	11.5	38.4	10.7	22.3	20.1	19.8
Green Ext Time (p_c), s	0.1	2.2	0.4	0.0	0.2	3.9	0.8	3.0

Intersection Summary	
HCM 6th Ctrl Delay	42.0
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
20: Burbank Blvd & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	94	521	306	153	443	85	197	747	91	153	1212	92
Future Volume (veh/h)	94	521	306	153	443	85	197	747	91	153	1212	92
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	99	548	322	161	466	89	207	786	96	161	1276	97
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	809	358	254	904	400	251	1676	745	368	1625	722
Arrive On Green	0.06	0.23	0.23	0.08	0.25	0.25	0.08	0.47	0.47	0.06	0.46	0.46
Sat Flow, veh/h	1781	3554	1573	1781	3554	1574	1781	3554	1579	1781	3554	1579
Grp Volume(v), veh/h	99	548	322	161	466	89	207	786	96	161	1276	97
Grp Sat Flow(s),veh/h/ln	1781	1777	1573	1781	1777	1574	1781	1777	1579	1781	1777	1579
Q Serve(g_s), s	5.9	19.7	27.8	9.5	15.8	6.3	8.5	21.0	4.8	6.7	42.6	5.0
Cycle Q Clear(g_c), s	5.9	19.7	27.8	9.5	15.8	6.3	8.5	21.0	4.8	6.7	42.6	5.0
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	272	809	358	254	904	400	251	1676	745	368	1625	722
V/C Ratio(X)	0.36	0.68	0.90	0.63	0.52	0.22	0.82	0.47	0.13	0.44	0.79	0.13
Avail Cap(c_a), veh/h	363	873	386	298	904	400	583	1676	745	725	1625	722
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	38.6	49.4	52.5	37.8	44.8	41.3	28.6	25.1	20.8	19.4	32.2	22.0
Incr Delay (d2), s/veh	0.6	1.9	22.3	2.8	0.5	0.3	5.0	0.9	0.4	0.6	3.9	0.4
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(50%),veh/ln	2.7	9.0	13.2	4.4	7.1	2.5	3.9	9.1	1.9	2.8	19.0	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.2	51.3	74.8	40.6	45.3	41.5	33.6	26.0	21.2	20.0	36.1	22.4
LnGrp LOS	D	D	E	D	D	D	C	C	C	B	D	C
Approach Vol, veh/h		969			716			1089			1534	
Approach Delay, s/veh		57.9			43.8			27.1			33.5	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.2	37.9	16.0	70.0	12.4	41.6	14.0	72.0
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	15.0	34.4	37.0	32.0	15.0	34.4	37.0	32.0
Max Q Clear Time (g_c+I1), s	11.5	29.8	10.5	44.6	7.9	17.8	8.7	23.0
Green Ext Time (p_c), s	0.1	2.0	0.4	0.0	0.1	3.1	0.3	3.8

Intersection Summary	
HCM 6th Ctrl Delay	39.1
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	110	649	137	133	519	211	122	553	83	404	1302	110
Future Volume (veh/h)	110	649	137	133	519	211	122	553	83	404	1302	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	128	755	159	155	603	245	142	643	97	470	1514	128
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	831	366	211	873	385	191	1236	547	525	1652	732
Arrive On Green	0.07	0.23	0.23	0.08	0.25	0.25	0.07	0.35	0.35	0.18	0.46	0.46
Sat Flow, veh/h	1781	3554	1565	1781	3554	1566	1781	3554	1571	1781	3554	1575
Grp Volume(v), veh/h	128	755	159	155	603	245	142	643	97	470	1514	128
Grp Sat Flow(s),veh/h/ln	1781	1777	1565	1781	1777	1566	1781	1777	1571	1781	1777	1575
Q Serve(g_s), s	7.6	28.9	12.1	9.2	21.6	19.6	7.1	20.2	6.0	22.8	55.6	6.6
Cycle Q Clear(g_c), s	7.6	28.9	12.1	9.2	21.6	19.6	7.1	20.2	6.0	22.8	55.6	6.6
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	233	831	366	211	873	385	191	1236	547	525	1652	732
V/C Ratio(X)	0.55	0.91	0.43	0.73	0.69	0.64	0.74	0.52	0.18	0.89	0.92	0.17
Avail Cap(c_a), veh/h	302	873	384	259	873	385	543	1236	547	669	1652	732
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	38.5	52.2	45.7	39.7	48.0	47.2	33.9	36.3	31.7	24.3	34.9	21.8
Incr Delay (d2), s/veh	1.5	12.9	0.8	7.3	2.3	3.5	4.2	1.6	0.7	11.7	9.5	0.5
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(50%),veh/ln	3.4	14.4	4.8	4.5	9.9	8.0	3.3	9.1	2.4	11.1	25.8	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	65.0	46.5	47.0	50.3	50.7	38.1	37.9	32.4	36.1	44.4	22.3
LnGrp LOS	D	E	D	D	D	D	D	D	C	D	D	C
Approach Vol, veh/h		1042			1003			882			2112	
Approach Delay, s/veh		59.1			49.9			37.3			41.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	38.8	14.3	71.1	14.2	40.4	30.7	54.7
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	15.0	34.4	37.0	32.0	15.0	34.4	37.0	32.0
Max Q Clear Time (g_c+I1), s	11.2	30.9	9.1	57.6	9.6	23.6	24.8	22.2
Green Ext Time (p_c), s	0.1	1.8	0.3	0.0	0.1	3.7	0.9	3.3

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
22: Olive Ave & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	171	468	108	168	914	48	97	355	113	100	1045	450
Future Volume (veh/h)	171	468	108	168	914	48	97	355	113	100	1045	450
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	0.99		0.98
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	180	493	114	177	962	51	102	374	119	105	1100	474
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	726	167	288	866	46	200	1627	713	485	1630	714
Arrive On Green	0.09	0.25	0.25	0.09	0.25	0.25	0.04	0.46	0.46	0.04	0.46	0.46
Sat Flow, veh/h	1781	2849	654	1781	3426	182	1781	3554	1557	1781	3554	1557
Grp Volume(v), veh/h	180	306	301	177	499	514	102	374	119	105	1100	474
Grp Sat Flow(s),veh/h/ln	1781	1777	1726	1781	1777	1830	1781	1777	1557	1781	1777	1557
Q Serve(g_s), s	10.3	21.7	22.0	10.2	35.4	35.4	4.2	8.9	6.3	4.4	34.0	33.2
Cycle Q Clear(g_c), s	10.3	21.7	22.0	10.2	35.4	35.4	4.2	8.9	6.3	4.4	34.0	33.2
Prop In Lane	1.00		0.38	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	212	453	440	288	449	463	200	1627	713	485	1630	714
V/C Ratio(X)	0.85	0.68	0.68	0.62	1.11	1.11	0.51	0.23	0.17	0.22	0.67	0.66
Avail Cap(c_a), veh/h	395	551	535	372	449	463	236	1627	713	520	1630	714
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	38.1	47.0	47.1	35.9	52.3	52.3	24.4	23.0	22.3	18.7	29.7	29.5
Incr Delay (d2), s/veh	6.9	2.5	2.7	1.6	76.1	75.5	1.5	0.3	0.5	0.2	2.3	4.8
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(50%),veh/ln	4.9	10.0	9.8	4.6	25.2	25.9	1.9	3.9	2.4	1.9	15.0	13.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	49.4	49.8	37.5	128.4	127.8	25.9	23.3	22.8	18.9	32.0	34.3
LnGrp LOS	D	D	D	D	F	F	C	C	C	B	C	C
Approach Vol, veh/h		787			1190			595			1679	
Approach Delay, s/veh		48.6			114.6			23.7			31.8	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	41.7	11.2	70.2	17.2	41.4	11.3	70.1
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	43.4	9.0	47.0	27.0	35.4	9.0	47.0
Max Q Clear Time (g_c+I1), s	12.2	24.0	6.2	36.0	12.3	37.4	6.4	10.9
Green Ext Time (p_c), s	0.2	3.7	0.0	6.9	0.3	0.0	0.0	3.1

Intersection Summary	
HCM 6th Ctrl Delay	57.0
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
23: Alameda Ave & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	202	616	123	234	590	117	213	302	219	271	687	188
Future Volume (veh/h)	202	616	123	234	590	117	213	302	219	271	687	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.95	0.99		0.95
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	224	684	137	260	656	130	237	336	243	301	763	209
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	274	826	355	308	887	382	370	1417	599	534	1492	633
Arrive On Green	0.08	0.23	0.23	0.09	0.25	0.25	0.09	0.40	0.40	0.12	0.42	0.42
Sat Flow, veh/h	3456	3554	1526	3456	3554	1530	1781	3554	1503	1781	3554	1507
Grp Volume(v), veh/h	224	684	137	260	656	130	237	336	243	301	763	209
Grp Sat Flow(s),veh/h/ln	1728	1777	1526	1728	1777	1530	1781	1777	1503	1781	1777	1507
Q Serve(g_s), s	8.9	25.6	8.2	10.4	23.8	9.8	10.9	8.8	11.5	13.8	22.2	13.1
Cycle Q Clear(g_c), s	8.9	25.6	8.2	10.4	23.8	9.8	10.9	8.8	11.5	13.8	22.2	13.1
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	274	826	355	308	887	382	370	1417	599	534	1492	633
V/C Ratio(X)	0.82	0.83	0.39	0.84	0.74	0.34	0.64	0.24	0.41	0.56	0.51	0.33
Avail Cap(c_a), veh/h	346	1142	490	346	1142	492	457	1417	599	595	1492	633
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	63.5	51.1	27.2	62.8	48.4	43.1	23.0	28.0	15.2	20.3	30.0	27.4
Incr Delay (d2), s/veh	10.7	3.7	0.7	15.1	1.9	0.5	1.7	0.4	2.0	0.7	1.3	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(50%),veh/ln	4.3	11.8	3.1	5.2	10.8	3.8	4.8	3.9	4.3	5.9	9.8	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.1	54.8	27.9	77.9	50.2	43.6	24.7	28.4	17.2	21.1	31.3	28.7
LnGrp LOS	E	D	C	E	D	D	C	C	B	C	C	C
Approach Vol, veh/h		1045			1046			816			1273	
Approach Delay, s/veh		55.4			56.3			24.0			28.4	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	38.5	18.2	64.8	16.1	40.9	21.2	61.8
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	14.0	* 45	20.0	39.0	14.0	45.0	21.0	38.0
Max Q Clear Time (g_c+I1), s	12.4	27.6	12.9	24.2	10.9	25.8	15.8	13.5
Green Ext Time (p_c), s	0.1	4.9	0.3	5.4	0.2	4.9	0.3	3.2

Intersection Summary	
HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

24: Riverside Dr & SR 134 Ramps/Buena Vista St & SR 134 WB On Ramp

Movement	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL
Lane Configurations	↰	↰	↰	↱	↰	↑↱		↰	↑↱		↱	↰
Traffic Volume (vph)	20	168	187	79	368	585	298	266	280	46	264	87
Future Volume (vph)	20	168	187	79	368	585	298	266	280	46	264	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.91		0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.95		1.00	0.95		0.85	1.00
Flt Protected	0.95	0.95	0.99	1.00	0.95	1.00		0.95	1.00		1.00	0.95
Satd. Flow (prot)	1770	1681	1746	1544	1770	3342		1770	3231		1441	1770
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00		0.95	1.00		1.00	0.95
Satd. Flow (perm)	1770	1770	1770	1544	1770	3342		1770	3231		1441	1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	21	177	197	83	387	616	314	280	295	48	278	92
RTOR Reduction (vph)	0	0	0	58	0	29	0	0	0	0	0	0
Lane Group Flow (vph)	21	103	271	25	387	901	0	280	429	0	192	92
Confl. Peds. (#/hr)				6			2	2				6
Turn Type	Prot	Perm	NA	Perm	Split	NA		Split	NA		Perm	Prot
Protected Phases	1		6		8	8		7	7			5
Permitted Phases		6		6							7	
Actuated Green, G (s)	5.6	43.7	43.7	43.7	50.7	50.7		34.0	34.0		34.0	14.0
Effective Green, g (s)	5.6	43.7	43.7	43.7	50.7	50.7		34.0	34.0		34.0	14.0
Actuated g/C Ratio	0.03	0.26	0.26	0.26	0.30	0.30		0.20	0.20		0.20	0.08
Clearance Time (s)	4.6	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	4.6
Vehicle Extension (s)	2.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	2.5
Lane Grp Cap (vph)	59	464	464	405	538	1017		361	659		294	148
v/s Ratio Prot	0.01				0.22	c0.27		c0.16	0.13			c0.05
v/s Ratio Perm		0.06	0.15	0.02							0.13	
v/c Ratio	0.36	0.22	0.58	0.06	0.72	0.89		0.78	0.65		0.65	0.62
Uniform Delay, d1	78.7	48.1	53.5	46.0	51.6	55.1		62.6	60.8		60.8	73.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	2.7	0.3	2.0	0.1	4.7	9.6		10.3	2.4		5.3	6.8
Delay (s)	81.4	48.4	55.5	46.1	56.3	64.7		72.9	63.2		66.2	80.5
Level of Service	F	D	E	D	E	E		E	E		E	F
Approach Delay (s)			53.5			62.2			66.9			65.6
Approach LOS			D			E			E			E

Intersection Summary			
HCM 2000 Control Delay	63.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	166.5	Sum of lost time (s)	24.1
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NER	NER2
Lane Configurations	↗↗	
Traffic Volume (vph)	773	1
Future Volume (vph)	773	1
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.5	
Lane Util. Factor	0.88	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	2787	
Flt Permitted	1.00	
Satd. Flow (perm)	2787	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	814	1
RTOR Reduction (vph)	54	0
Lane Group Flow (vph)	761	0
Confl. Peds. (#/hr)	2	
Turn Type	Prot	
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	52.1	
Effective Green, g (s)	52.1	
Actuated g/C Ratio	0.31	
Clearance Time (s)	6.5	
Vehicle Extension (s)	3.5	
Lane Grp Cap (vph)	872	
v/s Ratio Prot	c0.27	
v/s Ratio Perm		
v/c Ratio	0.87	
Uniform Delay, d1	54.1	
Progression Factor	1.00	
Incremental Delay, d2	9.8	
Delay (s)	63.9	
Level of Service	E	
Approach Delay (s)		
Approach LOS		

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↰↑	↱
Traffic Volume (vph)	40	1406	313	379	1255	485	233	233	112	636	527	52
Future Volume (vph)	40	1406	313	379	1255	485	233	233	112	636	527	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.86	0.86	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)	3433	5085	1561	3433	5085	1570	3433	3539	1583	3044	3185	1557
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)	3433	5085	1561	3433	5085	1570	3433	3539	1583	3044	3185	1557
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	43	1512	337	408	1349	522	251	251	120	684	567	56
RTOR Reduction (vph)	0	0	22	0	0	122	0	0	35	0	0	41
Lane Group Flow (vph)	43	1512	315	408	1349	400	251	251	85	609	642	15
Confl. Peds. (#/hr)	1		4	4		1	3					3
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	1	6	7	5	2	3	7	7	5	3	3	
Permitted Phases			6			2			7			3
Actuated Green, G (s)	6.0	63.5	85.7	25.7	83.2	130.5	22.2	22.2	47.9	47.3	47.3	47.3
Effective Green, g (s)	6.0	63.5	85.7	25.7	83.2	130.5	22.2	22.2	47.9	47.3	47.3	47.3
Actuated g/C Ratio	0.03	0.35	0.47	0.14	0.46	0.72	0.12	0.12	0.26	0.26	0.26	0.26
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	113	1777	736	485	2328	1179	419	432	417	792	829	405
v/s Ratio Prot	0.01	c0.30	0.05	c0.12	0.27	0.09	c0.07	0.07	0.03	0.20	c0.20	
v/s Ratio Perm			0.15			0.17			0.02			0.01
v/c Ratio	0.38	0.85	0.43	0.84	0.58	0.34	0.60	0.58	0.20	0.77	0.77	0.04
Uniform Delay, d1	86.0	54.7	31.8	76.0	36.3	9.5	75.5	75.4	52.1	62.1	62.3	50.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.6	4.1	0.4	12.0	0.4	0.2	2.3	2.0	0.1	4.5	4.6	0.0
Delay (s)	87.6	58.9	32.2	88.0	36.7	9.7	77.8	77.3	52.2	66.7	66.8	50.2
Level of Service	F	E	C	F	D	A	E	E	D	E	E	D
Approach Delay (s)		54.8			39.7			72.7			66.0	
Approach LOS		D			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	53.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	181.7	Sum of lost time (s)	23.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
26: Victory Blvd/Victory Pl & Magnolia Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	115	515	205	178	534	111	139	455	72	199	931	129
Future Volume (veh/h)	115	515	205	178	534	111	139	455	72	199	931	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	126	566	225	196	587	122	153	500	79	219	1023	142
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	537	213	228	878	387	285	1603	711	498	1675	743
Arrive On Green	0.07	0.22	0.22	0.10	0.25	0.25	0.06	0.45	0.45	0.08	0.47	0.47
Sat Flow, veh/h	1781	2475	981	1781	3554	1568	1781	3554	1576	1781	3554	1576
Grp Volume(v), veh/h	126	406	385	196	587	122	153	500	79	219	1023	142
Grp Sat Flow(s),veh/h/ln	1781	1777	1679	1781	1777	1568	1781	1777	1576	1781	1777	1576
Q Serve(g_s), s	7.6	30.4	30.4	11.6	20.9	8.9	6.4	12.6	4.1	9.1	29.9	7.3
Cycle Q Clear(g_c), s	7.6	30.4	30.4	11.6	20.9	8.9	6.4	12.6	4.1	9.1	29.9	7.3
Prop In Lane	1.00		0.58	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	247	386	365	228	878	387	285	1603	711	498	1675	743
V/C Ratio(X)	0.51	1.05	1.06	0.86	0.67	0.32	0.54	0.31	0.11	0.44	0.61	0.19
Avail Cap(c_a), veh/h	442	386	365	370	878	387	545	1603	711	722	1675	743
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	39.6	54.8	54.8	39.2	47.5	43.0	22.1	24.6	22.2	18.1	27.5	21.5
Incr Delay (d2), s/veh	0.6	60.2	62.6	6.1	2.0	0.5	0.6	0.5	0.3	0.2	1.7	0.6
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(50%),veh/ln	3.4	20.0	19.2	5.5	9.5	3.5	2.7	5.5	1.6	3.8	13.1	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	115.0	117.4	45.3	49.5	43.5	22.6	25.1	22.5	18.3	29.2	22.1
LnGrp LOS	D	F	F	D	D	D	C	C	C	B	C	C
Approach Vol, veh/h		917			905			732			1384	
Approach Delay, s/veh		105.7			47.8			24.3			26.7	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.2	72.0	18.4	36.4	16.0	69.1	14.3	40.6
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	29.0	34.4	25.0	30.4	29.0	34.4	25.0	30.4
Max Q Clear Time (g_c+I1), s	8.4	31.9	13.6	32.4	11.1	14.6	9.6	22.9
Green Ext Time (p_c), s	0.2	1.7	0.2	0.0	0.3	3.5	0.1	2.6

Intersection Summary	
HCM 6th Ctrl Delay	49.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
27: Olive Ave & Victory Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	160	452	54	135	890	72	119	490	91	176	925	285
Future Volume (veh/h)	160	452	54	135	890	72	119	490	91	176	925	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	0.99		0.97
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	168	476	57	142	937	76	125	516	96	185	974	300
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	322	1527	182	487	1672	734	173	782	337	289	873	378
Arrive On Green	0.06	0.48	0.48	0.06	0.47	0.47	0.07	0.22	0.22	0.09	0.25	0.25
Sat Flow, veh/h	1781	3191	380	1781	3554	1560	1781	3554	1531	1781	3554	1537
Grp Volume(v), veh/h	168	264	269	142	937	76	125	516	96	185	974	300
Grp Sat Flow(s),veh/h/ln	1781	1777	1795	1781	1777	1560	1781	1777	1531	1781	1777	1537
Q Serve(g_s), s	6.8	12.7	12.9	5.7	26.5	3.8	7.5	18.5	7.3	11.0	34.4	25.6
Cycle Q Clear(g_c), s	6.8	12.7	12.9	5.7	26.5	3.8	7.5	18.5	7.3	11.0	34.4	25.6
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	322	850	859	487	1672	734	173	782	337	289	873	378
V/C Ratio(X)	0.52	0.31	0.31	0.29	0.56	0.10	0.72	0.66	0.28	0.64	1.12	0.79
Avail Cap(c_a), veh/h	577	850	859	756	1672	734	293	873	376	364	873	378
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	20.3	22.4	22.4	17.6	26.7	20.6	41.5	49.8	45.4	37.8	52.8	49.5
Incr Delay (d2), s/veh	0.5	1.0	1.0	0.1	1.4	0.3	2.1	1.6	0.5	1.1	67.3	11.2
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(50%),veh/ln	2.9	5.6	5.7	2.4	11.6	1.5	3.4	8.4	2.9	4.9	23.5	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	23.3	23.4	17.7	28.0	20.9	43.7	51.4	45.9	38.8	120.1	60.6
LnGrp LOS	C	C	C	B	C	C	D	D	D	D	F	E
Approach Vol, veh/h		701			1155			737			1459	
Approach Delay, s/veh		22.7			26.3			49.4			97.6	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	73.0	14.1	40.4	13.6	71.9	17.7	36.8
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	29.0	36.4	19.0	34.4	29.0	36.4	19.0	34.4
Max Q Clear Time (g_c+I1), s	7.7	14.9	9.5	36.4	8.8	28.5	13.0	20.5
Green Ext Time (p_c), s	0.2	3.2	0.1	0.0	0.2	4.0	0.1	3.2

Intersection Summary	
HCM 6th Ctrl Delay	55.5
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
28: Alameda Ave & Victory Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰↰	↑↱	
Traffic Volume (veh/h)	47	563	93	101	1092	228	84	217	64	317	528	66
Future Volume (veh/h)	47	563	93	101	1092	228	84	217	64	317	528	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.98		0.95	0.96		0.97
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	48	574	95	103	1114	233	86	221	65	323	539	67
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	1947	863	480	1967	873	168	440	125	608	924	114
Arrive On Green	0.04	0.55	0.55	0.04	0.55	0.55	0.16	0.16	0.16	0.10	0.29	0.29
Sat Flow, veh/h	1781	3554	1576	1781	3554	1576	797	2694	766	3456	3170	393
Grp Volume(v), veh/h	48	574	95	103	1114	233	86	143	143	323	301	305
Grp Sat Flow(s),veh/h/ln	1781	1777	1576	1781	1777	1576	797	1777	1683	1728	1777	1786
Q Serve(g_s), s	1.6	12.2	4.1	3.5	28.5	10.8	14.5	10.3	10.9	10.5	20.2	20.4
Cycle Q Clear(g_c), s	1.6	12.2	4.1	3.5	28.5	10.8	16.9	10.3	10.9	10.5	20.2	20.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		0.22
Lane Grp Cap(c), veh/h	258	1947	863	480	1967	873	168	291	275	608	518	521
V/C Ratio(X)	0.19	0.29	0.11	0.21	0.57	0.27	0.51	0.49	0.52	0.53	0.58	0.59
Avail Cap(c_a), veh/h	320	1947	863	532	1967	873	210	386	366	846	736	740
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	15.6	17.1	15.2	13.1	20.3	16.4	57.2	53.3	53.5	41.5	42.3	42.4
Incr Delay (d2), s/veh	0.1	0.4	0.3	0.1	1.2	0.7	2.4	1.3	1.5	0.7	1.0	1.0
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(50%),veh/ln	0.7	5.1	1.5	1.4	12.1	4.1	3.0	4.7	4.7	4.6	9.1	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.7	17.5	15.5	13.2	21.5	17.1	59.7	54.6	55.0	42.2	43.3	43.4
LnGrp LOS	B	B	B	B	C	B	E	D	E	D	D	D
Approach Vol, veh/h		717			1450			372			929	
Approach Delay, s/veh		17.1			20.2			55.9			43.0	
Approach LOS		B			C			E			D	
Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	17.9	28.9	10.5	82.7		46.8	9.7	83.5				
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0		6.0	4.6	6.0				
Max Green Setting (Gmax), s	23.0	30.4	10.0	55.4		58.0	10.0	55.4				
Max Q Clear Time (g_c+I1), s	12.5	18.9	5.5	14.2		22.4	3.6	30.5				
Green Ext Time (p_c), s	0.8	1.7	0.0	4.8		4.2	0.0	10.2				
Intersection Summary												
HCM 6th Ctrl Delay			29.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
29: Burbank Blvd & San Fernando Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑	↱↱
Traffic Volume (veh/h)	489	464	282	19	322	71	66	99	4	50	201	634
Future Volume (veh/h)	489	464	282	19	322	71	66	99	4	50	201	634
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		1.00	1.00		0.98	1.00		0.98	1.00		0.97
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	569	540	0	22	374	83	77	115	5	58	234	737
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	675	939		86	631	275	430	1234	53	97	511	736
Arrive On Green	0.12	0.26	0.00	0.05	0.18	0.18	0.12	0.36	0.36	0.05	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	1781	3554	1548	3456	3468	150	1781	1870	2693
Grp Volume(v), veh/h	569	540	0	22	374	83	77	59	61	58	234	737
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1548	1728	1777	1841	1781	1870	1346
Q Serve(g_s), s	6.9	10.6	0.0	1.0	7.8	3.7	1.6	1.8	1.8	2.6	8.4	16.4
Cycle Q Clear(g_c), s	6.9	10.6	0.0	1.0	7.8	3.7	1.6	1.8	1.8	2.6	8.4	16.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.08	1.00		1.00
Lane Grp Cap(c), veh/h	675	939		86	631	275	430	633	655	97	511	736
V/C Ratio(X)	0.84	0.57		0.26	0.59	0.30	0.18	0.09	0.09	0.60	0.46	1.00
Avail Cap(c_a), veh/h	1111	1326		664	1326	577	2578	1326	1373	443	698	1004
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	25.7	0.0	36.9	30.4	28.7	31.5	17.2	17.3	37.2	24.3	16.2
Incr Delay (d2), s/veh	1.4	0.7	0.0	1.9	1.1	0.7	0.4	0.1	0.1	2.2	0.5	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(50%),veh/ln	5.3	4.4	0.0	0.5	3.3	1.4	0.7	0.7	0.7	1.2	3.6	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.7	26.3	0.0	38.7	31.5	29.5	32.0	17.3	17.3	39.4	24.7	41.1
LnGrp LOS	C	C		D	C	C	C	B	B	D	C	F
Approach Vol, veh/h		1109	A		479			197			1029	
Approach Delay, s/veh		30.1			31.5			23.0			37.3	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	34.9	15.9	20.3	16.3	28.0	8.9	27.3
Change Period (Y+Rc), s	5.0	6.3	6.0	* 6	6.3	* 6	5.0	6.0
Max Green Setting (Gmax), s	20.0	60.0	20.0	* 30	60.0	* 30	30.0	30.0
Max Q Clear Time (g_c+I1), s	4.6	3.8	8.9	9.8	3.6	18.4	3.0	12.6
Green Ext Time (p_c), s	0.0	0.9	1.0	3.2	0.6	3.1	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
30: Magnolia Blvd & First St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	94	492	154	42	653	19	148	115	37	28	284	205
Future Volume (veh/h)	94	492	154	42	653	19	148	115	37	28	284	205
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		0.99	0.99		0.99
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	109	572	179	49	759	22	172	134	43	33	330	238
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	1825	771	427	1693	809	303	823	365	349	644	372
Arrive On Green	0.05	0.49	0.49	0.04	0.48	0.48	0.09	0.23	0.23	0.04	0.18	0.18
Sat Flow, veh/h	1781	3741	1580	1781	3554	1580	1781	3554	1575	1781	3554	1572
Grp Volume(v), veh/h	109	572	179	49	759	22	172	134	43	33	330	238
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1781	1777	1580	1781	1777	1575	1781	1777	1572
Q Serve(g_s), s	3.2	9.7	6.9	1.4	14.9	0.7	8.0	3.2	2.3	1.6	8.8	14.3
Cycle Q Clear(g_c), s	3.2	9.7	6.9	1.4	14.9	0.7	8.0	3.2	2.3	1.6	8.8	14.3
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	397	1825	771	427	1693	809	303	823	365	349	644	372
V/C Ratio(X)	0.27	0.31	0.23	0.11	0.45	0.03	0.57	0.16	0.12	0.09	0.51	0.64
Avail Cap(c_a), veh/h	452	1825	771	502	1693	809	303	1097	486	439	1097	572
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	13.5	16.3	15.5	12.8	18.3	12.7	30.3	32.2	31.9	32.8	38.8	36.1
Incr Delay (d2), s/veh	0.1	0.4	0.7	0.0	0.9	0.1	1.6	0.1	0.1	0.0	0.6	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(50%),veh/ln	1.3	4.2	2.6	0.6	6.2	0.3	3.5	1.4	0.9	0.7	3.9	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.7	16.7	16.2	12.9	19.2	12.8	31.9	32.3	32.0	32.9	39.4	38.0
LnGrp LOS	B	B	B	B	B	B	C	C	C	C	D	D
Approach Vol, veh/h		860			830			349			601	
Approach Delay, s/veh		16.2			18.6			32.1			38.5	
Approach LOS		B			B			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	57.2	8.3	30.3	10.4	56.0	13.6	25.0
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	9.0	33.4	9.0	32.4	9.0	33.4	9.0	32.4
Max Q Clear Time (g_c+I1), s	3.4	11.7	3.6	5.2	5.2	16.9	10.0	16.3
Green Ext Time (p_c), s	0.0	4.6	0.0	0.9	0.0	4.9	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
31: Olive Ave & First St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	97	376	104	36	681	93	263	173	47	51	176	109
Future Volume (veh/h)	97	376	104	36	681	93	263	173	47	51	176	109
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.98		0.98	0.97		0.96
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	404	112	39	732	100	283	186	51	55	189	117
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	362	1275	349	460	1602	698	422	697	185	333	603	342
Arrive On Green	0.05	0.47	0.47	0.04	0.45	0.45	0.13	0.25	0.25	0.04	0.17	0.17
Sat Flow, veh/h	1781	2741	751	1781	3554	1548	1781	2759	734	1781	3554	1526
Grp Volume(v), veh/h	104	260	256	39	732	100	283	118	119	55	189	117
Grp Sat Flow(s),veh/h/ln	1781	1777	1715	1781	1777	1548	1781	1777	1716	1781	1777	1526
Q Serve(g_s), s	3.4	10.1	10.3	1.3	15.7	4.2	14.0	5.8	6.1	2.8	5.1	7.1
Cycle Q Clear(g_c), s	3.4	10.1	10.3	1.3	15.7	4.2	14.0	5.8	6.1	2.8	5.1	7.1
Prop In Lane	1.00		0.44	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	362	827	798	460	1602	698	422	449	433	333	603	342
V/C Ratio(X)	0.29	0.31	0.32	0.08	0.46	0.14	0.67	0.26	0.28	0.17	0.31	0.34
Avail Cap(c_a), veh/h	447	827	798	570	1602	698	422	565	546	400	969	499
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	15.7	18.4	18.5	15.1	20.9	17.7	31.1	32.9	33.0	35.1	40.1	36.1
Incr Delay (d2), s/veh	0.3	1.0	1.1	0.0	0.9	0.4	3.8	0.4	0.4	0.1	0.4	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(50%),veh/ln	1.4	4.3	4.3	0.5	6.6	1.6	6.5	2.6	2.6	1.2	2.3	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	19.4	19.6	15.1	21.8	18.2	34.9	33.3	33.4	35.2	40.4	36.8
LnGrp LOS	B	B	B	B	C	B	C	C	C	D	D	D
Approach Vol, veh/h		620			871			520			361	
Approach Delay, s/veh		18.9			21.1			34.2			38.4	
Approach LOS		B			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	33.8	10.7	55.6	19.0	24.7	9.2	57.2
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	9.0	35.0	11.0	33.0	14.0	30.0	11.0	33.0
Max Q Clear Time (g_c+I1), s	4.8	8.1	5.4	17.7	16.0	9.1	3.3	12.3
Green Ext Time (p_c), s	0.0	1.7	0.1	5.6	0.0	1.8	0.0	3.7

Intersection Summary			
HCM 6th Ctrl Delay			26.0
HCM 6th LOS			C

HCM 6th Signalized Intersection Summary
32: Alameda Ave & San Fernando Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↱		↰	↑↱		↰↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	150	380	132	70	494	68	255	218	86	134	416	249
Future Volume (veh/h)	150	380	132	70	494	68	255	218	86	134	416	249
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	0.98		0.96	0.98		0.96
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	155	392	136	72	509	70	263	225	89	138	429	257
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1357	1424	487	92	632	86	444	403	153	269	569	244
Arrive On Green	0.39	0.55	0.55	0.05	0.20	0.20	0.08	0.16	0.16	0.08	0.16	0.16
Sat Flow, veh/h	3456	2583	884	1781	3115	426	3456	2486	946	1781	3554	1523
Grp Volume(v), veh/h	155	268	260	72	289	290	263	158	156	138	429	257
Grp Sat Flow(s),veh/h/ln	1728	1777	1690	1781	1777	1765	1728	1777	1655	1781	1777	1523
Q Serve(g_s), s	4.0	11.2	11.4	5.6	21.7	21.9	8.8	11.5	12.2	9.0	16.1	9.7
Cycle Q Clear(g_c), s	4.0	11.2	11.4	5.6	21.7	21.9	8.8	11.5	12.2	9.0	16.1	9.7
Prop In Lane	1.00		0.52	1.00		0.24	1.00		0.57	1.00		1.00
Lane Grp Cap(c), veh/h	1357	979	931	92	360	358	444	288	268	269	569	244
V/C Ratio(X)	0.11	0.27	0.28	0.78	0.80	0.81	0.59	0.55	0.58	0.51	0.75	1.05
Avail Cap(c_a), veh/h	1357	979	931	280	609	605	637	470	437	283	762	326
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	27.0	16.6	16.7	65.6	53.1	53.2	44.9	53.9	54.2	44.6	56.1	10.9
Incr Delay (d2), s/veh	0.0	0.7	0.7	10.4	17.0	17.8	0.9	2.0	2.4	1.1	3.3	62.5
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(50%),veh/ln	1.7	4.8	4.7	2.8	11.4	11.5	3.8	5.3	5.3	4.1	7.5	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	17.3	17.4	76.0	70.2	71.0	45.8	55.9	56.6	45.7	59.5	73.4
LnGrp LOS	C	B	B	E	E	E	D	E	E	D	E	F
Approach Vol, veh/h		683			651			577			824	
Approach Delay, s/veh		19.6			71.2			51.5			61.5	
Approach LOS		B			E			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.2	28.4	61.0	34.4	15.9	28.7	12.2	83.2				
Change Period (Y+Rc), s	5.0	6.0	6.0	* 6	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	19.0	30.0	21.0	* 48	12.0	37.0	22.0	47.0				
Max Q Clear Time (g_c+I1), s	10.8	18.1	6.0	23.9	11.0	14.2	7.6	13.4				
Green Ext Time (p_c), s	0.4	3.5	0.3	4.5	0.0	2.2	0.1	4.4				
Intersection Summary												
HCM 6th Ctrl Delay			51.2									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
33: Magnolia Blvd & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	80	129	132	91	321	55	158	633	17	49	1304	194
Future Volume (veh/h)	80	129	132	91	321	55	158	633	17	49	1304	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.99	1.00		0.98
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	82	133	136	94	331	57	163	653	18	51	1344	200
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	422	350	262	683	116	248	1914	53	501	1626	240
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.07	0.54	0.54	0.05	0.52	0.52
Sat Flow, veh/h	986	1870	1551	1096	3026	515	1781	3531	97	1781	3100	457
Grp Volume(v), veh/h	82	133	136	94	193	195	163	328	343	51	765	779
Grp Sat Flow(s),veh/h/ln	986	1870	1551	1096	1777	1764	1781	1777	1852	1781	1777	1780
Q Serve(g_s), s	7.1	5.3	6.7	7.0	8.5	8.7	3.7	9.3	9.4	1.1	32.3	33.3
Cycle Q Clear(g_c), s	15.8	5.3	6.7	12.4	8.5	8.7	3.7	9.3	9.4	1.1	32.3	33.3
Prop In Lane	1.00		1.00	1.00		0.29	1.00		0.05	1.00		0.26
Lane Grp Cap(c), veh/h	207	422	350	262	401	398	248	963	1004	501	932	933
V/C Ratio(X)	0.40	0.32	0.39	0.36	0.48	0.49	0.66	0.34	0.34	0.10	0.82	0.83
Avail Cap(c_a), veh/h	292	582	483	356	553	549	310	963	1004	593	932	933
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	37.2	29.1	29.6	34.2	30.3	30.4	18.5	11.6	11.6	8.8	17.9	18.1
Incr Delay (d2), s/veh	1.2	0.4	0.7	0.8	0.9	0.9	1.7	1.0	0.9	0.0	8.0	8.7
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(50%),veh/ln	1.8	2.4	2.5	1.9	3.7	3.7	1.8	3.7	3.9	0.4	14.1	14.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.4	29.5	30.3	35.0	31.2	31.3	20.3	12.5	12.5	8.9	25.9	26.8
LnGrp LOS	D	C	C	D	C	C	C	B	B	A	C	C
Approach Vol, veh/h		351			482			834			1595	
Approach Delay, s/veh		31.9			32.0			14.0			25.8	
Approach LOS		C			C			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	54.8		26.3	10.5	53.2		26.3				
Change Period (Y+Rc), s	4.6	6.0		6.0	4.6	6.0		6.0				
Max Green Setting (Gmax), s	9.0	36.4		28.0	9.0	36.4		28.0				
Max Q Clear Time (g_c+I1), s	3.1	11.4		14.4	5.7	35.3		17.8				
Green Ext Time (p_c), s	0.0	4.4		2.3	0.1	0.9		1.1				
Intersection Summary												
HCM 6th Ctrl Delay			24.4									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
34: Olive Ave & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	95	127	83	104	431	35	148	506	31	47	895	181
Future Volume (veh/h)	95	127	83	104	431	35	148	506	31	47	895	181
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.98	0.99		0.98
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	99	132	86	108	449	36	154	527	32	49	932	189
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	425	759	460	551	1201	96	227	1004	61	304	762	154
Arrive On Green	0.06	0.36	0.36	0.06	0.36	0.36	0.08	0.30	0.30	0.05	0.26	0.26
Sat Flow, veh/h	1781	2110	1279	1781	3328	266	1781	3400	206	1781	2932	594
Grp Volume(v), veh/h	99	110	108	108	239	246	154	275	284	49	564	557
Grp Sat Flow(s),veh/h/ln	1781	1777	1612	1781	1777	1817	1781	1777	1829	1781	1777	1749
Q Serve(g_s), s	3.1	3.8	4.2	3.4	8.9	9.0	5.5	11.6	11.7	1.8	23.4	23.4
Cycle Q Clear(g_c), s	3.1	3.8	4.2	3.4	8.9	9.0	5.5	11.6	11.7	1.8	23.4	23.4
Prop In Lane	1.00		0.79	1.00		0.15	1.00		0.11	1.00		0.34
Lane Grp Cap(c), veh/h	425	639	580	551	641	656	227	525	540	304	462	455
V/C Ratio(X)	0.23	0.17	0.19	0.20	0.37	0.38	0.68	0.52	0.53	0.16	1.22	1.22
Avail Cap(c_a), veh/h	494	639	580	619	641	656	258	525	540	398	462	455
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	16.5	19.7	19.8	16.1	21.2	21.3	24.1	26.4	26.4	22.6	33.3	33.3
Incr Delay (d2), s/veh	0.2	0.6	0.7	0.1	1.7	1.6	5.2	1.0	0.9	0.2	118.0	118.9
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(50%),veh/ln	1.2	1.6	1.6	1.3	3.9	4.0	2.6	4.9	5.1	0.7	24.9	24.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.7	20.2	20.5	16.2	22.9	22.9	29.3	27.4	27.4	22.8	151.3	152.2
LnGrp LOS	B	C	C	B	C	C	C	C	C	C	F	F
Approach Vol, veh/h		317			593			713			1170	
Approach Delay, s/veh		19.2			21.7			27.8			146.4	
Approach LOS		B			C			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	38.4	12.0	29.4	10.1	38.5	8.8	32.6
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	9.0	27.4	9.0	23.4	9.0	27.4	9.0	23.4
Max Q Clear Time (g_c+I1), s	5.4	6.2	7.5	25.4	5.1	11.0	3.8	13.7
Green Ext Time (p_c), s	0.1	1.7	0.0	0.0	0.1	3.6	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	75.2
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
35: Alameda Ave & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↑↑	↱	↰	↑↑↑↱	
Traffic Volume (veh/h)	187	114	119	91	403	15	213	533	14	53	966	321
Future Volume (veh/h)	187	114	119	91	403	15	213	533	14	53	966	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	0.99		0.99
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	195	119	124	95	420	16	222	555	15	55	1006	334
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	611	513	119	482	18	270	2036	624	401	1299	431
Arrive On Green	0.12	0.33	0.33	0.07	0.27	0.27	0.10	0.40	0.40	0.04	0.34	0.34
Sat Flow, veh/h	1781	1870	1570	1781	1789	68	1781	5106	1565	1781	3781	1254
Grp Volume(v), veh/h	195	119	124	95	0	436	222	555	15	55	906	434
Grp Sat Flow(s),veh/h/ln	1781	1870	1570	1781	0	1857	1781	1702	1565	1781	1702	1632
Q Serve(g_s), s	13.7	5.8	7.3	6.7	0.0	28.5	9.9	9.3	0.7	2.5	30.2	30.2
Cycle Q Clear(g_c), s	13.7	5.8	7.3	6.7	0.0	28.5	9.9	9.3	0.7	2.5	30.2	30.2
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	222	611	513	119	0	500	270	2036	624	401	1169	560
V/C Ratio(X)	0.88	0.19	0.24	0.80	0.00	0.87	0.82	0.27	0.02	0.14	0.77	0.78
Avail Cap(c_a), veh/h	351	663	557	420	0	731	661	2413	740	750	1341	643
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.6	30.7	31.2	58.4	0.0	44.3	28.4	25.8	23.2	24.9	37.3	37.3
Incr Delay (d2), s/veh	9.2	0.2	0.3	8.6	0.0	9.3	2.4	0.1	0.0	0.1	2.8	5.8
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(50%),veh/ln	6.7	2.7	2.9	3.3	0.0	14.3	4.3	3.8	0.3	1.1	13.0	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.8	30.9	31.6	66.9	0.0	53.6	30.8	25.9	23.2	24.9	40.1	43.1
LnGrp LOS	E	C	C	E	A	D	C	C	C	C	D	D
Approach Vol, veh/h		438			531			792			1395	
Approach Delay, s/veh		45.7			56.0			27.2			40.4	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	47.5	16.8	49.6	20.4	40.2	9.7	56.6
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	29.9	45.0	40.0	50.0	25.0	50.0	30.0	60.0
Max Q Clear Time (g_c+I1), s	8.7	9.3	11.9	32.2	15.7	30.5	4.5	11.3
Green Ext Time (p_c), s	0.2	1.7	0.3	11.3	0.2	3.7	0.1	6.4

Intersection Summary			
HCM 6th Ctrl Delay			40.5
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
1: Winona Ave & Hollywood Way

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	20	4	24	98	3	238	29	1639	58	59	1161	7
Future Volume (veh/h)	20	4	24	98	3	238	29	1639	58	59	1161	7
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	22	4	26	107	3	259	32	1782	63	64	1262	8
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	90	360	305	314	342	305	355	2209	78	206	3364	21
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.04	0.63	0.63	0.05	0.64	0.64
Sat Flow, veh/h	1117	1870	1583	1378	1777	1583	1781	3501	123	1781	5235	33
Grp Volume(v), veh/h	22	4	26	107	3	259	32	900	945	64	821	449
Grp Sat Flow(s),veh/h/ln	1117	1870	1583	1378	1777	1583	1781	1777	1848	1781	1702	1864
Q Serve(g_s), s	2.7	0.2	1.9	9.5	0.2	22.1	0.8	53.0	54.1	1.7	15.9	15.9
Cycle Q Clear(g_c), s	24.8	0.2	1.9	9.8	0.2	22.1	0.8	53.0	54.1	1.7	15.9	15.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		0.02
Lane Grp Cap(c), veh/h	90	360	305	314	342	305	355	1121	1166	206	2187	1198
V/C Ratio(X)	0.24	0.01	0.09	0.34	0.01	0.85	0.09	0.80	0.81	0.31	0.38	0.38
Avail Cap(c_a), veh/h	222	581	492	477	552	492	460	1121	1166	291	2187	1198
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	66.6	45.7	46.4	49.7	45.7	54.6	8.5	19.3	19.5	21.3	11.8	11.8
Incr Delay (d2), s/veh	1.4	0.0	0.1	0.6	0.0	7.8	0.1	6.1	6.2	0.6	0.5	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(50%),veh/ln	0.8	0.1	0.8	3.4	0.1	9.5	0.3	22.8	24.2	1.1	6.1	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.0	45.8	46.5	50.3	45.7	62.4	8.6	25.4	25.7	22.0	12.3	12.7
LnGrp LOS	E	D	D	D	D	E	A	C	C	C	B	B
Approach Vol, veh/h		52			369			1877			1334	
Approach Delay, s/veh		55.5			58.7			25.3			12.9	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	96.5		32.9	12.2	94.8		32.9				
Change Period (Y+Rc), s	4.9	6.5		6.0	4.9	6.5		6.0				
Max Green Setting (Gmax), s	14.0	65.1		43.5	14.0	65.1		43.5				
Max Q Clear Time (g_c+I1), s	2.8	17.9		24.1	3.7	56.1		26.8				
Green Ext Time (p_c), s	0.0	11.9		1.9	0.1	7.3		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	222	28	122	162	112	148	134	1317	122	48	1085	117
Future Volume (veh/h)	222	28	122	162	112	148	134	1317	122	48	1085	117
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.98		0.97	1.00		0.99	1.00		0.99
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	30	131	174	120	159	144	1416	131	52	1167	126
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	484	249	204	365	270	234	306	2304	1172	190	1952	865
Arrive On Green	0.08	0.13	0.13	0.10	0.15	0.15	0.06	0.65	0.65	0.55	0.55	0.55
Sat Flow, veh/h	3456	1870	1535	1781	1777	1541	1781	3554	1572	334	3554	1576
Grp Volume(v), veh/h	239	30	131	174	120	159	144	1416	131	52	1167	126
Grp Sat Flow(s),veh/h/ln	1728	1870	1535	1781	1777	1541	1781	1777	1572	334	1777	1576
Q Serve(g_s), s	8.2	2.0	11.3	11.7	8.6	13.7	4.6	32.6	3.2	15.1	30.9	5.5
Cycle Q Clear(g_c), s	8.2	2.0	11.3	11.7	8.6	13.7	4.6	32.6	3.2	33.8	30.9	5.5
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	484	249	204	365	270	234	306	2304	1172	190	1952	865
V/C Ratio(X)	0.49	0.12	0.64	0.48	0.44	0.68	0.47	0.61	0.11	0.27	0.60	0.15
Avail Cap(c_a), veh/h	796	553	454	365	399	346	434	2304	1172	190	1952	865
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	47.3	53.5	57.5	46.0	54.0	56.1	16.4	14.4	5.0	28.3	21.2	15.5
Incr Delay (d2), s/veh	0.8	0.2	3.3	0.4	1.1	3.4	0.8	1.2	0.2	3.5	1.4	0.4
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(50%),veh/ln	3.6	1.0	4.6	5.2	4.0	5.6	1.9	13.1	1.1	1.4	13.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	53.7	60.8	46.4	55.1	59.6	17.2	15.6	5.2	31.8	22.5	15.8
LnGrp LOS	D	D	E	D	E	E	B	B	A	C	C	B
Approach Vol, veh/h		400			453			1691			1345	
Approach Delay, s/veh		52.7			53.3			15.0			22.3	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	13.9	83.4	15.5	27.3		97.3	18.1	24.6
Change Period (Y+Rc), s	4.9	6.5	4.6	6.0		6.5	4.6	6.0
Max Green Setting (Gmax), s	19.0	44.1	23.5	31.4		68.0	13.5	41.4
Max Q Clear Time (g_c+I1), s	6.6	35.8	10.2	15.7		34.6	13.7	13.3
Green Ext Time (p_c), s	0.2	5.5	0.6	1.5		15.0	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
3: Victory Blvd & Hollywood Way

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	230	806	93	102	935	151	161	935	92	191	809	315
Future Volume (veh/h)	230	806	93	102	935	151	161	935	92	191	809	315
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	235	822	95	104	954	154	164	954	94	195	826	321
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	287	1431	756	287	1293	715	241	1064	556	235	1110	638
Arrive On Green	0.09	0.40	0.40	0.06	0.36	0.36	0.08	0.30	0.30	0.09	0.31	0.31
Sat Flow, veh/h	1781	3554	1572	1781	3554	1571	1781	3554	1560	1781	3554	1561
Grp Volume(v), veh/h	235	822	95	104	954	154	164	954	94	195	826	321
Grp Sat Flow(s),veh/h/ln	1781	1777	1572	1781	1777	1571	1781	1777	1560	1781	1777	1561
Q Serve(g_s), s	11.2	25.2	4.7	5.0	32.7	8.3	8.8	36.0	5.8	10.5	29.2	21.5
Cycle Q Clear(g_c), s	11.2	25.2	4.7	5.0	32.7	8.3	8.8	36.0	5.8	10.5	29.2	21.5
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	287	1431	756	287	1293	715	241	1064	556	235	1110	638
V/C Ratio(X)	0.82	0.57	0.13	0.36	0.74	0.22	0.68	0.90	0.17	0.83	0.74	0.50
Avail Cap(c_a), veh/h	309	1431	756	378	1293	715	255	1152	595	316	1330	734
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	29.8	32.5	20.1	26.7	38.7	23.1	33.9	47.0	30.9	35.2	43.1	31.0
Incr Delay (d2), s/veh	13.7	1.7	0.3	0.3	3.8	0.7	5.3	9.0	0.1	9.8	1.9	0.6
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(50%),veh/ln	5.8	11.2	1.8	2.2	14.9	3.3	4.2	17.2	2.2	5.2	13.1	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.5	34.2	20.5	27.0	42.5	23.8	39.2	55.9	31.1	45.0	45.0	31.6
LnGrp LOS	D	C	C	C	D	C	D	E	C	D	D	C
Approach Vol, veh/h		1152			1212			1212			1342	
Approach Delay, s/veh		35.0			38.8			51.7			41.8	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	62.4	15.5	49.7	17.9	56.9	17.2	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	15.0	39.4	12.0	52.4	15.0	39.4	19.0	45.4
Max Q Clear Time (g_c+I1), s	7.0	27.2	10.8	31.2	13.2	34.7	12.5	38.0
Green Ext Time (p_c), s	0.1	4.8	0.0	7.3	0.1	2.8	0.1	3.9

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
4: Burbank Blvd & Hollywood Way

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	180	694	27	151	767	106	107	1005	104	127	718	137
Future Volume (veh/h)	180	694	27	151	767	106	107	1005	104	127	718	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	184	708	28	154	783	108	109	1026	106	130	733	140
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	1274	50	338	1298	574	237	1113	115	181	1034	197
Arrive On Green	0.08	0.37	0.37	0.08	0.37	0.37	0.06	0.34	0.34	0.06	0.35	0.35
Sat Flow, veh/h	1781	3483	138	1781	3554	1573	1781	3247	335	1781	2970	567
Grp Volume(v), veh/h	184	361	375	154	783	108	109	561	571	130	438	435
Grp Sat Flow(s),veh/h/ln	1781	1777	1844	1781	1777	1573	1781	1777	1805	1781	1777	1761
Q Serve(g_s), s	9.0	22.6	22.7	7.4	25.1	6.6	5.5	42.5	42.5	6.6	29.9	29.9
Cycle Q Clear(g_c), s	9.0	22.6	22.7	7.4	25.1	6.6	5.5	42.5	42.5	6.6	29.9	29.9
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.19	1.00		0.32
Lane Grp Cap(c), veh/h	308	650	674	338	1298	574	237	609	619	181	619	613
V/C Ratio(X)	0.60	0.56	0.56	0.46	0.60	0.19	0.46	0.92	0.92	0.72	0.71	0.71
Avail Cap(c_a), veh/h	358	650	674	389	1298	574	379	640	650	313	640	634
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	27.3	35.3	35.4	26.0	36.2	30.3	30.6	44.2	44.2	34.6	39.5	39.5
Incr Delay (d2), s/veh	0.9	3.4	3.3	0.4	2.1	0.7	0.5	18.4	18.3	2.0	3.5	3.5
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(50%),veh/ln	3.9	10.5	10.9	3.2	11.3	2.6	2.4	21.7	22.1	2.9	13.7	13.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.2	38.7	38.6	26.4	38.3	31.0	31.1	62.5	62.5	36.6	43.0	43.0
LnGrp LOS	C	D	D	C	D	C	C	E	E	D	D	D
Approach Vol, veh/h		920			1045			1241			1003	
Approach Delay, s/veh		36.6			35.8			59.7			42.2	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	57.2	12.5	54.7	15.7	57.1	13.2	54.0
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	15.0	34.4	19.0	50.4	15.0	34.4	19.0	50.4
Max Q Clear Time (g_c+I1), s	9.4	24.7	7.5	31.9	11.0	27.1	8.6	44.5
Green Ext Time (p_c), s	0.1	3.2	0.1	5.6	0.1	3.3	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	44.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
5: Magnolia Blvd & Hollywood Way

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	177	588	95	111	692	185	157	964	123	184	619	269
Future Volume (veh/h)	177	588	95	111	692	185	157	964	123	184	619	269
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	0.99		0.93	1.00		0.98	1.00		0.98
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	181	600	97	113	706	189	160	984	126	188	632	274
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	244	948	396	252	854	354	371	1586	694	299	1617	707
Arrive On Green	0.09	0.27	0.27	0.06	0.24	0.24	0.06	0.45	0.45	0.07	0.45	0.45
Sat Flow, veh/h	1781	3554	1483	1781	3554	1472	1781	3554	1554	1781	3554	1555
Grp Volume(v), veh/h	181	600	97	113	706	189	160	984	126	188	632	274
Grp Sat Flow(s),veh/h/ln	1781	1777	1483	1781	1777	1472	1781	1777	1554	1781	1777	1555
Q Serve(g_s), s	10.5	20.9	7.2	6.6	26.4	15.7	6.8	29.7	6.8	8.0	16.5	16.3
Cycle Q Clear(g_c), s	10.5	20.9	7.2	6.6	26.4	15.7	6.8	29.7	6.8	8.0	16.5	16.3
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	244	948	396	252	854	354	371	1586	694	299	1617	707
V/C Ratio(X)	0.74	0.63	0.25	0.45	0.83	0.53	0.43	0.62	0.18	0.63	0.39	0.39
Avail Cap(c_a), veh/h	325	1152	481	381	1152	477	462	1586	694	374	1617	707
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	37.8	45.3	40.3	37.5	50.4	46.4	19.6	29.7	23.4	23.2	25.3	25.2
Incr Delay (d2), s/veh	3.8	0.8	0.3	0.5	3.8	1.3	0.3	1.8	0.6	0.9	0.7	1.6
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(50%),veh/ln	4.8	9.4	2.7	2.9	12.2	5.9	2.9	13.1	2.7	3.4	7.2	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.6	46.1	40.6	37.9	54.2	47.6	19.9	31.5	23.9	24.0	26.0	26.9
LnGrp LOS	D	D	D	D	D	D	B	C	C	C	C	C
Approach Vol, veh/h		878			1008			1270			1094	
Approach Delay, s/veh		44.5			51.1			29.3			25.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	69.7	17.2	39.6	14.7	68.5	13.5	43.4
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	16.0	38.4	19.0	45.4	16.0	38.4	19.0	45.4
Max Q Clear Time (g_c+I1), s	8.8	18.5	12.5	28.4	10.0	31.7	8.6	22.9
Green Ext Time (p_c), s	0.1	5.3	0.1	5.3	0.1	3.8	0.1	4.6

Intersection Summary	
HCM 6th Ctrl Delay	36.7
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
6: Hollywood Way & Verdugo Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	222	517	35	101	460	56	94	989	102	78	526	121
Future Volume (veh/h)	222	517	35	101	460	56	94	989	102	78	526	121
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.96	1.00		0.96
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	556	38	109	495	60	101	1063	110	84	566	130
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	623	522	194	541	453	357	1441	618	210	1437	617
Arrive On Green	0.10	0.33	0.33	0.06	0.29	0.29	0.05	0.41	0.41	0.05	0.40	0.40
Sat Flow, veh/h	1781	1870	1568	1781	1870	1565	1781	3554	1524	1781	3554	1524
Grp Volume(v), veh/h	239	556	38	109	495	60	101	1063	110	84	566	130
Grp Sat Flow(s),veh/h/ln	1781	1870	1568	1781	1870	1565	1781	1777	1524	1781	1777	1524
Q Serve(g_s), s	12.9	39.5	2.3	6.0	35.8	4.0	4.6	35.5	6.5	3.8	15.8	7.8
Cycle Q Clear(g_c), s	12.9	39.5	2.3	6.0	35.8	4.0	4.6	35.5	6.5	3.8	15.8	7.8
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	258	623	522	194	541	453	357	1441	618	210	1437	617
V/C Ratio(X)	0.93	0.89	0.07	0.56	0.91	0.13	0.28	0.74	0.18	0.40	0.39	0.21
Avail Cap(c_a), veh/h	258	668	560	271	668	559	511	1441	618	366	1437	617
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	34.9	44.3	31.9	36.5	48.1	36.8	23.2	35.3	26.7	27.4	29.5	27.1
Incr Delay (d2), s/veh	36.0	13.8	0.1	1.0	15.2	0.1	0.2	3.4	0.6	0.5	0.8	0.8
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(50%),veh/ln	8.2	20.6	0.9	2.7	18.9	1.6	2.0	16.0	2.5	1.6	7.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	58.1	32.0	37.5	63.3	36.9	23.4	38.7	27.3	27.9	30.3	27.9
LnGrp LOS	E	E	C	D	E	D	C	D	C	C	C	C
Approach Vol, veh/h		833			664			1274			780	
Approach Delay, s/veh		60.6			56.6			36.5			29.7	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	62.6	19.0	46.5	11.7	62.8	12.9	52.6
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	35.0	14.0	50.0	19.0	35.0	14.0	50.0
Max Q Clear Time (g_c+I1), s	6.6	17.8	14.9	37.8	5.8	37.5	8.0	41.5
Green Ext Time (p_c), s	0.1	4.0	0.0	2.7	0.0	0.0	0.0	2.4

Intersection Summary			
HCM 6th Ctrl Delay			44.4
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
7: Riverside Dr & Alameda Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	✥			✥	
Traffic Volume (veh/h)	2	551	349	12	936	21	763	8	26	36	16	31
Future Volume (veh/h)	2	551	349	12	936	21	763	8	26	36	16	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	1.00		1.00	1.00		0.91
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	2	574	364	12	975	22	826	0	0	38	17	32
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	1907	1245	326	1905	43	942	495	0	47	21	40
Arrive On Green	0.54	0.54	0.54	1.00	1.00	1.00	0.26	0.00	0.00	0.07	0.07	0.07
Sat Flow, veh/h	561	3554	1539	594	3550	80	3563	1870	0	724	324	610
Grp Volume(v), veh/h	2	574	364	12	488	509	826	0	0	87	0	0
Grp Sat Flow(s),veh/h/ln	561	1777	1539	594	1777	1853	1781	1870	0	1657	0	0
Q Serve(g_s), s	0.2	10.7	7.4	0.4	0.0	0.0	26.6	0.0	0.0	6.2	0.0	0.0
Cycle Q Clear(g_c), s	0.2	10.7	7.4	11.1	0.0	0.0	26.6	0.0	0.0	6.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.00	0.44		0.37
Lane Grp Cap(c), veh/h	361	1907	1245	326	954	995	942	495	0	109	0	0
V/C Ratio(X)	0.01	0.30	0.29	0.04	0.51	0.51	0.88	0.00	0.00	0.80	0.00	0.00
Avail Cap(c_a), veh/h	361	1907	1245	326	954	995	1366	717	0	166	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.56	0.56	0.56	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.9	15.4	3.1	0.9	0.0	0.0	42.3	0.0	0.0	55.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.6	0.1	1.1	1.1	4.8	0.0	0.0	14.7	0.0	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(50%),veh/ln	0.0	4.4	6.2	0.0	0.3	0.3	12.3	0.0	0.0	3.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	13.0	15.8	3.7	1.0	1.1	1.1	47.0	0.0	0.0	70.0	0.0	0.0
LnGrp LOS	B	B	A	A	A	A	D	A	A	E	A	A
Approach Vol, veh/h		940			1009			826			87	
Approach Delay, s/veh		11.1			1.1			47.0			70.0	
Approach LOS		B			A			D			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		70.4		12.9		70.4		36.7				
Change Period (Y+Rc), s		6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s		46.0		12.0		46.0		46.0				
Max Q Clear Time (g_c+I1), s		12.7		8.2		13.1		28.6				
Green Ext Time (p_c), s		6.0		0.1		7.9		3.1				

Intersection Summary			
HCM 6th Ctrl Delay			19.7
HCM 6th LOS			B

Notes

User approved volume balancing among the lanes for turning movement.

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)	139	474	12	39	661	145	113	352	34	236	381	188
Future Volume (veh/h)	139	474	12	39	661	145	113	352	34	236	381	188
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.99		0.97	0.99		0.97
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	145	494	12	41	689	151	118	367	35	246	397	196
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	952	23	307	697	153	431	1301	123	551	992	482
Arrive On Green	0.15	0.54	0.54	0.05	0.24	0.24	0.07	0.40	0.40	0.10	0.43	0.43
Sat Flow, veh/h	1781	3544	86	1781	2884	632	1781	3269	310	1781	2291	1114
Grp Volume(v), veh/h	145	247	259	41	424	416	118	198	204	246	306	287
Grp Sat Flow(s),veh/h/ln	1781	1777	1853	1781	1777	1739	1781	1777	1802	1781	1777	1629
Q Serve(g_s), s	7.3	10.7	10.7	2.0	28.5	28.6	4.6	9.1	9.2	9.5	14.2	14.5
Cycle Q Clear(g_c), s	7.3	10.7	10.7	2.0	28.5	28.6	4.6	9.1	9.2	9.5	14.2	14.5
Prop In Lane	1.00		0.05	1.00		0.36	1.00		0.17	1.00		0.68
Lane Grp Cap(c), veh/h	199	478	498	307	429	420	431	707	717	551	769	705
V/C Ratio(X)	0.73	0.52	0.52	0.13	0.99	0.99	0.27	0.28	0.28	0.45	0.40	0.41
Avail Cap(c_a), veh/h	211	478	498	367	429	420	523	707	717	729	769	705
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.9	22.8	22.8	31.1	45.3	45.3	19.0	24.5	24.5	17.4	23.3	23.4
Incr Delay (d2), s/veh	9.2	0.9	0.9	0.1	40.2	41.0	0.1	1.0	1.0	0.6	1.5	1.7
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(50%),veh/ln	3.3	3.8	4.0	0.9	17.3	17.0	1.9	4.0	4.1	3.9	6.3	5.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.1	23.7	23.7	31.2	85.5	86.3	19.1	25.5	25.5	18.0	24.9	25.2
LnGrp LOS	D	C	C	C	F	F	B	C	C	B	C	C
Approach Vol, veh/h		651			881			520			839	
Approach Delay, s/veh		27.4			83.4			24.0			23.0	
Approach LOS		C			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	38.2	12.8	57.9	14.2	35.0	17.0	53.8
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	29.0	14.0	45.0	10.0	29.0	24.0	35.0
Max Q Clear Time (g_c+I1), s	4.0	12.7	6.6	16.5	9.3	30.6	11.5	11.2
Green Ext Time (p_c), s	0.0	2.7	0.1	4.1	0.0	0.0	0.6	2.4

Intersection Summary			
HCM 6th Ctrl Delay			42.5
HCM 6th LOS			D

HCM Signalized Intersection Capacity Analysis
9: Olive Ave & Pass Ave

10/27/2021

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑↑	↑↑↱		↰	↱↱
Traffic Volume (vph)	491	1363	1419	105	29	410
Future Volume (vph)	491	1363	1419	105	29	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	5085	5006		1770	2787
Flt Permitted	0.07	1.00	1.00		0.95	1.00
Satd. Flow (perm)	134	5085	5006		1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	522	1450	1510	112	31	436
RTOR Reduction (vph)	0	0	6	0	0	310
Lane Group Flow (vph)	522	1450	1616	0	31	126
Confl. Peds. (#/hr)	43			43		
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	3 5	2	6		4	4 3
Permitted Phases	2	3				
Actuated Green, G (s)	94.0	94.0	50.4		10.0	34.8
Effective Green, g (s)	94.0	94.0	50.4		10.0	34.8
Actuated g/C Ratio	0.78	0.78	0.42		0.08	0.29
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		2.0	
Lane Grp Cap (vph)	631	4237	2102		147	808
v/s Ratio Prot	c0.27	0.21	0.32		c0.02	0.05
v/s Ratio Perm	c0.38	0.07				
v/c Ratio	0.83	0.34	0.77		0.21	0.16
Uniform Delay, d1	31.1	3.8	29.8		51.3	31.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.3	0.0	2.8		0.3	0.0
Delay (s)	39.4	3.9	32.6		51.6	31.7
Level of Service	D	A	C		D	C
Approach Delay (s)		13.3	32.6		33.0	
Approach LOS		B	C		C	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	78.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑↱		↰	↑↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Traffic Volume (veh/h)	200	818	70	31	907	383	283	637	277	111	389	262
Future Volume (veh/h)	200	818	70	31	907	383	283	637	277	111	389	262
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.97
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	899	77	34	997	421	311	700	304	122	427	288
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1486	127	111	1222	373	297	1316	575	255	986	428
Arrive On Green	0.13	0.31	0.31	0.06	0.24	0.24	0.33	0.74	0.74	0.07	0.28	0.28
Sat Flow, veh/h	1781	4786	409	1781	5106	1559	1781	3554	1553	3456	3554	1542
Grp Volume(v), veh/h	220	639	337	34	997	421	311	700	304	122	427	288
Grp Sat Flow(s),veh/h/ln	1781	1702	1791	1781	1702	1559	1781	1777	1553	1728	1777	1542
Q Serve(g_s), s	14.8	19.1	19.2	2.2	22.1	22.5	20.0	10.1	10.0	4.1	11.8	13.7
Cycle Q Clear(g_c), s	14.8	19.1	19.2	2.2	22.1	22.5	20.0	10.1	10.0	4.1	11.8	13.7
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	1057	556	111	1222	373	297	1316	575	255	986	428
V/C Ratio(X)	0.99	0.60	0.61	0.31	0.82	1.13	1.05	0.53	0.53	0.48	0.43	0.67
Avail Cap(c_a), veh/h	223	1057	556	238	1277	390	297	1316	575	288	986	428
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	0.79	0.79	0.79	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	35.1	35.2	53.8	43.1	28.0	40.0	11.1	11.1	53.4	35.6	18.3
Incr Delay (d2), s/veh	56.7	1.0	1.9	2.2	4.3	86.2	59.4	1.2	2.7	0.5	1.4	8.2
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(50%),veh/ln	10.1	8.0	8.7	1.1	9.8	17.2	12.2	3.1	2.9	1.8	5.3	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.1	36.1	37.0	56.0	47.5	114.1	99.4	12.3	13.8	53.9	37.0	26.5
LnGrp LOS	F	D	D	E	D	F	F	B	B	D	D	C
Approach Vol, veh/h		1196			1452			1315			837	
Approach Delay, s/veh		49.8			67.0			33.3			35.8	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	39.3	21.0	34.7	13.8	50.4	12.5	43.3
Change Period (Y+Rc), s	5.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	32.0	15.0	30.0	10.0	42.0	16.0	30.0
Max Q Clear Time (g_c+I1), s	22.0	15.7	16.8	24.5	6.1	12.1	4.2	21.2
Green Ext Time (p_c), s	0.0	3.6	0.0	4.2	0.1	6.8	0.1	4.1

Intersection Summary	
HCM 6th Ctrl Delay	48.0
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
11: Hollywood Way & Riverside Dr

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	113	260	28	6	442	437	87	656	21	82	225	182
Future Volume (veh/h)	113	260	28	6	442	437	87	656	21	82	225	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.99		0.99	1.00		0.99
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	123	283	30	7	480	475	95	713	23	89	245	198
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	222	1259	132	436	579	505	385	1214	39	345	1601	707
Arrive On Green	0.08	0.39	0.39	0.02	0.33	0.33	0.69	0.69	0.69	0.11	0.75	0.75
Sat Flow, veh/h	1781	3238	340	1781	1777	1549	940	3512	113	1781	3554	1570
Grp Volume(v), veh/h	123	154	159	7	480	475	95	361	375	89	245	198
Grp Sat Flow(s),veh/h/ln	1781	1777	1801	1781	1777	1549	940	1777	1848	1781	1777	1570
Q Serve(g_s), s	5.1	7.0	7.1	0.3	29.9	35.8	4.7	12.7	12.7	3.6	2.3	4.7
Cycle Q Clear(g_c), s	5.1	7.0	7.1	0.3	29.9	35.8	4.7	12.7	12.7	3.6	2.3	4.7
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	222	691	700	436	579	505	385	614	639	345	1601	707
V/C Ratio(X)	0.55	0.22	0.23	0.02	0.83	0.94	0.25	0.59	0.59	0.26	0.15	0.28
Avail Cap(c_a), veh/h	225	691	700	566	592	516	385	614	639	381	1601	707
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.73	0.73	0.73	0.76	0.76	0.76
Uniform Delay (d), s/veh	28.2	24.5	24.6	25.8	37.4	39.3	12.9	14.1	14.1	20.9	8.5	8.8
Incr Delay (d2), s/veh	2.4	0.2	0.2	0.0	9.4	25.4	1.1	3.0	2.9	0.2	0.2	0.8
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(50%),veh/ln	2.3	3.0	3.1	0.1	14.4	17.0	1.0	4.1	4.2	1.5	0.9	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.5	24.7	24.7	25.9	46.8	64.8	14.0	17.1	17.0	21.1	8.6	9.5
LnGrp LOS	C	C	C	C	D	E	B	B	B	C	A	A
Approach Vol, veh/h		436			962			831			532	
Approach Delay, s/veh		26.4			55.5			16.7			11.0	
Approach LOS		C			E			B			B	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	14.8	45.1	12.6	47.5	7.3	52.7		60.1
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	10.0	40.0	10.0	38.0	11.0	39.0		53.0
Max Q Clear Time (g_c+I1), s	7.1	37.8	5.6	14.7	2.3	9.1		6.7
Green Ext Time (p_c), s	0.1	1.3	0.0	5.4	0.0	1.9		2.4

Intersection Summary	
HCM 6th Ctrl Delay	30.6
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
12: Hollywood Way & Olive Ave

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱			↰↱		↰	↑	↱↱
Traffic Volume (veh/h)	407	933	26	7	1048	57	43	198	27	28	18	220
Future Volume (veh/h)	407	933	26	7	1048	57	43	198	27	28	18	220
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.99
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	433	993	28	7	1115	61	46	211	29	30	19	234
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	3580	101	423	3007	164	97	376	52	141	280	718
Arrive On Green	0.11	0.70	0.70	0.02	0.61	0.61	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	5104	144	1781	4951	271	387	2510	345	1132	1870	2751
Grp Volume(v), veh/h	433	662	359	7	766	410	149	0	137	30	19	234
Grp Sat Flow(s),veh/h/ln	1781	1702	1843	1781	1702	1817	1608	0	1634	1132	1870	1375
Q Serve(g_s), s	10.3	8.7	8.7	0.2	13.7	13.7	6.7	0.0	9.4	3.0	1.0	8.3
Cycle Q Clear(g_c), s	10.3	8.7	8.7	0.2	13.7	13.7	10.1	0.0	9.4	12.4	1.0	8.3
Prop In Lane	1.00		0.08	1.00		0.15	0.31		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	490	2388	1293	423	2067	1104	280	0	244	141	280	718
V/C Ratio(X)	0.88	0.28	0.28	0.02	0.37	0.37	0.53	0.00	0.56	0.21	0.07	0.33
Avail Cap(c_a), veh/h	592	2388	1293	692	2067	1104	551	0	531	340	608	1200
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	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.9	6.6	6.6	8.6	11.9	11.9	47.5	0.0	47.4	53.1	43.8	36.0
Incr Delay (d2), s/veh	12.9	0.3	0.5	0.0	0.5	1.0	1.6	0.0	2.0	0.7	0.1	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(50%),veh/ln	8.9	3.0	3.3	0.1	5.2	5.7	4.3	0.0	4.0	0.9	0.5	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.8	6.9	7.2	8.6	12.5	12.9	49.0	0.0	49.4	53.9	43.9	36.2
LnGrp LOS	C	A	A	A	B	B	D	A	D	D	D	D
Approach Vol, veh/h		1454			1183			286			283	
Approach Delay, s/veh		12.6			12.6			49.2			38.6	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.2	78.9		23.0	6.9	90.2		23.0				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	20.0	45.0		39.0	20.0	45.0		39.0				
Max Q Clear Time (g_c+I1), s	12.3	15.7		14.4	2.2	10.7		12.1				
Green Ext Time (p_c), s	0.9	9.5		1.1	0.0	8.2		1.8				

Intersection Summary			
HCM 6th Ctrl Delay			18.2
HCM 6th LOS			B

HCM 6th Signalized Intersection Summary
13: Riverside Dr & Olive Ave

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	47	856	127	24	772	188	309	633	68	72	268	16
Future Volume (veh/h)	47	856	127	24	772	188	309	633	68	72	268	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.99		0.98	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	52	941	140	26	848	207	340	696	75	79	295	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	1092	478	193	1005	439	539	1592	171	306	1752	
Arrive On Green	0.08	0.31	0.31	0.06	0.28	0.28	0.49	0.49	0.49	0.49	0.49	0.00
Sat Flow, veh/h	1781	3554	1556	1781	3554	1553	1071	3227	347	696	3554	1585
Grp Volume(v), veh/h	52	941	140	26	848	207	340	383	388	79	295	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1556	1781	1777	1553	1071	1777	1798	696	1777	1585
Q Serve(g_s), s	2.3	29.9	8.2	1.2	27.0	13.2	30.9	16.7	16.7	9.9	5.5	0.0
Cycle Q Clear(g_c), s	2.3	29.9	8.2	1.2	27.0	13.2	36.4	16.7	16.7	26.7	5.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	238	1092	478	193	1005	439	539	876	887	306	1752	
V/C Ratio(X)	0.22	0.86	0.29	0.13	0.84	0.47	0.63	0.44	0.44	0.26	0.17	
Avail Cap(c_a), veh/h	373	1185	519	372	1185	518	539	876	887	306	1752	
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	28.3	39.2	31.6	29.7	40.5	35.6	26.9	19.6	19.7	28.3	16.8	0.0
Incr Delay (d2), s/veh	0.3	6.3	0.3	0.2	5.0	0.8	5.5	1.6	1.6	2.0	0.2	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(50%),veh/ln	1.0	13.9	3.2	0.5	12.4	5.1	8.6	7.2	7.3	1.8	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.6	45.5	32.0	29.9	45.5	36.4	32.4	21.2	21.2	30.3	17.0	0.0
LnGrp LOS	C	D	C	C	D	D	C	C	C	C	B	
Approach Vol, veh/h		1133			1081			1111			374	A
Approach Delay, s/veh		43.1			43.4			24.6			19.8	
Approach LOS		D			D			C			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	42.9		65.2	14.9	39.9		65.2				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	19.0	40.0		44.0	19.0	40.0		44.0				
Max Q Clear Time (g_c+I1), s	3.2	31.9		28.7	4.3	29.0		38.4				
Green Ext Time (p_c), s	0.0	4.2		2.2	0.1	5.0		3.0				

Intersection Summary			
HCM 6th Ctrl Delay			35.3
HCM 6th LOS			D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis
14: Alameda Ave & Ontario St & Olive Ave

10/29/2021

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBT	NBR	SBT	SBR
Lane Configurations		↰↰	↑↑		↰↰	↑↑			↑↑	↱	↑↑	↱
Traffic Volume (vph)	10	303	340	13	247	694	25	6	879	248	540	281
Future Volume (vph)	10	303	340	13	247	694	25	6	879	248	540	281
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	8.0		7.5	8.0			6.5	7.5	6.5	3.0
Lane Util. Factor		0.97	0.95		0.97	0.95			0.95	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	0.98	1.00	0.91
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Frt		1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00			1.00	1.00	1.00	1.00
Satd. Flow (prot)		3433	3516		3433	3510			3539	1547	3539	1443
Flt Permitted		0.95	1.00		0.95	1.00			1.00	1.00	1.00	1.00
Satd. Flow (perm)		3433	3516		3433	3510			3539	1547	3539	1443
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	10	316	354	14	257	723	26	6	916	258	562	293
RTOR Reduction (vph)	0	0	2	0	0	1	0	0	0	0	0	0
Lane Group Flow (vph)	0	326	366	0	257	754	0	0	916	258	563	304
Confl. Peds. (#/hr)	4	19		12	12		15	10		18		10
Turn Type	Prot	Prot	NA		Prot	NA			NA	custom	NA	custom
Protected Phases	1	1	6		5	2			8		4	
Permitted Phases										5 7 8		3 4
Actuated Green, G (s)		16.9	35.8		14.6	33.5			38.7	66.3	38.1	45.2
Effective Green, g (s)		16.9	35.8		14.6	33.5			38.7	56.8	38.1	45.2
Actuated g/C Ratio		0.14	0.30		0.12	0.28			0.33	0.48	0.32	0.38
Clearance Time (s)		7.5	8.0		7.5	8.0			6.5		6.5	
Vehicle Extension (s)		2.5	4.0		2.5	4.0			3.0		3.0	
Lane Grp Cap (vph)		493	1070		426	999			1164	747	1146	554
v/s Ratio Prot		c0.09	0.10		0.07	c0.21			c0.26		0.16	
v/s Ratio Perm										0.17		c0.21
v/c Ratio		0.66	0.34		0.60	0.76			0.79	0.35	0.49	0.55
Uniform Delay, d1		47.6	31.8		48.8	38.3			35.7	18.9	32.0	28.2
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		3.0	0.3		2.0	3.5			3.6	0.2	0.3	1.1
Delay (s)		50.6	32.0		50.8	41.8			39.3	19.1	32.3	29.4
Level of Service		D	C		D	D			D	B	C	C
Approach Delay (s)			40.8			44.1			34.9		31.3	
Approach LOS			D			D			C		C	

Intersection Summary			
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	117.6	Sum of lost time (s)	25.0
Intersection Capacity Utilization	83.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR2	SER2
Lane Configurations		↱
Traffic Volume (vph)	11	53
Future Volume (vph)	11	53
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		7.5
Lane Util. Factor		1.00
Frpb, ped/bikes		1.00
Flpb, ped/bikes		1.00
Frt		0.86
Flt Protected		1.00
Satd. Flow (prot)		1611
Flt Permitted		1.00
Satd. Flow (perm)		1611
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	11	55
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	55
Confl. Peds. (#/hr)	15	10
Turn Type		Over
Protected Phases		1
Permitted Phases		
Actuated Green, G (s)		16.9
Effective Green, g (s)		16.9
Actuated g/C Ratio		0.14
Clearance Time (s)		7.5
Vehicle Extension (s)		2.5
Lane Grp Cap (vph)		231
v/s Ratio Prot		0.03
v/s Ratio Perm		
v/c Ratio		0.24
Uniform Delay, d1		44.6
Progression Factor		1.00
Incremental Delay, d2		0.4
Delay (s)		45.0
Level of Service		D
Approach Delay (s)		
Approach LOS		

Intersection Summary		

HCM 6th Signalized Intersection Summary
15: Buena Vista St & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱			✥	
Traffic Volume (veh/h)	26	827	128	105	813	22	224	177	94	20	98	11
Future Volume (veh/h)	26	827	128	105	813	22	224	177	94	20	98	11
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		0.99	0.99		0.99
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	844	131	107	830	22	229	181	96	20	100	11
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	378	1446	224	346	2076	55	407	314	167	66	184	19
Arrive On Green	0.47	0.47	0.47	0.06	0.59	0.59	0.09	0.27	0.27	0.13	0.13	0.13
Sat Flow, veh/h	646	3080	478	1781	3536	94	1781	1148	609	152	1436	146
Grp Volume(v), veh/h	27	487	488	107	417	435	229	0	277	131	0	0
Grp Sat Flow(s),veh/h/ln	646	1777	1781	1781	1777	1853	1781	0	1757	1734	0	0
Q Serve(g_s), s	2.1	18.0	18.0	2.6	11.4	11.4	8.5	0.0	12.2	1.5	0.0	0.0
Cycle Q Clear(g_c), s	2.9	18.0	18.0	2.6	11.4	11.4	8.5	0.0	12.2	6.2	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.05	1.00		0.35	0.15		0.08
Lane Grp Cap(c), veh/h	378	834	836	346	1043	1088	407	0	481	269	0	0
V/C Ratio(X)	0.07	0.58	0.58	0.31	0.40	0.40	0.56	0.00	0.58	0.49	0.00	0.00
Avail Cap(c_a), veh/h	378	834	836	413	1043	1088	407	0	752	525	0	0
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	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.7	17.4	17.4	12.3	10.0	10.0	29.5	0.0	28.2	36.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	3.0	3.0	0.4	1.1	1.1	1.5	0.0	1.1	1.4	0.0	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(50%),veh/ln	0.3	7.7	7.7	1.0	4.4	4.6	4.4	0.0	5.2	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	14.0	20.4	20.4	12.6	11.2	11.1	31.1	0.0	29.3	38.2	0.0	0.0
LnGrp LOS	B	C	C	B	B	B	C	A	C	D	A	A
Approach Vol, veh/h		1002			959			506			131	
Approach Delay, s/veh		20.2			11.3			30.1			38.2	
Approach LOS		C			B			C			D	

Timer - Assigned Phs		2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s		59.3		30.7	10.6	48.8	13.1	17.6				
Change Period (Y+Rc), s		6.5		6.0	5.0	6.5	4.6	6.0				
Max Green Setting (Gmax), s		39.0		38.5	9.0	25.0	8.5	25.4				
Max Q Clear Time (g_c+I1), s		13.4		14.2	4.6	20.0	10.5	8.2				
Green Ext Time (p_c), s		7.1		1.7	0.1	3.0	0.0	0.6				

Intersection Summary			
HCM 6th Ctrl Delay			19.8
HCM 6th LOS			B

HCM 6th Signalized Intersection Summary
16: San Fernando Blvd & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	161	301	61	50	317	502	63	1090	26	195	745	113
Future Volume (veh/h)	161	301	61	50	317	502	63	1090	26	195	745	113
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	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	171	320	65	53	337	534	67	1160	28	207	793	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	895	179	324	910	402	85	1389	34	234	1699	
Arrive On Green	0.08	0.30	0.30	0.03	0.26	0.26	0.05	0.39	0.39	0.13	0.48	0.00
Sat Flow, veh/h	1781	2946	590	1781	3554	1572	1781	3546	86	1781	3554	1585
Grp Volume(v), veh/h	171	191	194	53	337	534	67	581	607	207	793	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1572	1781	1777	1854	1781	1777	1585
Q Serve(g_s), s	10.8	13.1	13.5	3.4	12.2	40.0	5.8	46.2	46.2	17.8	23.4	0.0
Cycle Q Clear(g_c), s	10.8	13.1	13.5	3.4	12.2	40.0	5.8	46.2	46.2	17.8	23.4	0.0
Prop In Lane	1.00		0.34	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	306	540	535	324	910	402	85	696	726	234	1699	
V/C Ratio(X)	0.56	0.35	0.36	0.16	0.37	1.33	0.79	0.84	0.84	0.88	0.47	
Avail Cap(c_a), veh/h	387	540	535	491	910	402	290	853	890	456	2047	
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	37.2	42.4	42.5	40.6	47.8	58.1	73.6	43.0	43.0	66.7	27.4	0.0
Incr Delay (d2), s/veh	0.6	0.6	0.6	0.1	0.4	163.4	6.0	6.7	6.5	12.3	0.4	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(50%),veh/ln	4.8	5.9	6.0	1.5	5.5	34.2	2.8	21.6	22.5	8.9	10.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.8	43.0	43.1	40.7	48.1	221.5	79.6	49.7	49.4	79.0	27.8	0.0
LnGrp LOS	D	D	D	D	D	F	E	D	D	E	C	
Approach Vol, veh/h		556			924			1255			1000	A
Approach Delay, s/veh		41.4			147.9			51.2			38.4	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	53.5	12.0	80.7	17.5	46.0	25.6	67.2
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	40.0	25.4	90.0	20.0	40.0	40.0	75.0
Max Q Clear Time (g_c+I1), s	5.4	15.5	7.8	25.4	12.8	42.0	19.8	48.2
Green Ext Time (p_c), s	0.0	3.3	0.1	14.4	0.1	0.0	0.7	13.0

Intersection Summary			
HCM 6th Ctrl Delay			70.2
HCM 6th LOS			E

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
17: Buena Vista St & Empire Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱	↰↰	↑↱	
Traffic Volume (veh/h)	129	171	190	377	273	141	181	808	423	99	540	86
Future Volume (veh/h)	129	171	190	377	273	141	181	808	423	99	540	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.99	1.00		0.99
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	134	178	198	393	284	147	189	842	441	103	562	90
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	201	586	254	441	490	246	452	1776	788	150	1453	232
Arrive On Green	0.08	0.17	0.17	0.13	0.22	0.22	0.07	0.50	0.50	0.04	0.47	0.47
Sat Flow, veh/h	1781	3554	1539	3456	2272	1140	1781	3554	1576	3456	3066	490
Grp Volume(v), veh/h	134	178	198	393	220	211	189	842	441	103	325	327
Grp Sat Flow(s),veh/h/ln	1781	1777	1539	1728	1777	1635	1781	1777	1576	1728	1777	1779
Q Serve(g_s), s	9.8	6.2	14.2	15.7	15.5	16.3	7.5	21.7	15.6	4.1	16.5	16.6
Cycle Q Clear(g_c), s	9.8	6.2	14.2	15.7	15.5	16.3	7.5	21.7	15.6	4.1	16.5	16.6
Prop In Lane	1.00		1.00	1.00		0.70	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	201	586	254	441	383	352	452	1776	788	150	842	843
V/C Ratio(X)	0.67	0.30	0.78	0.89	0.57	0.60	0.42	0.47	0.56	0.68	0.39	0.39
Avail Cap(c_a), veh/h	255	863	374	469	470	432	519	1776	788	296	842	843
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	0.89	0.89	0.89	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	51.4	37.9	60.1	49.2	49.5	17.4	23.0	8.0	66.0	23.7	23.7
Incr Delay (d2), s/veh	3.5	0.3	6.2	17.9	1.4	1.6	0.4	0.8	2.6	4.1	1.3	1.3
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(50%),veh/ln	4.6	2.8	5.9	8.0	7.1	6.8	3.2	9.3	5.6	1.9	7.3	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	51.7	44.1	78.0	50.5	51.1	17.8	23.8	10.6	70.1	25.0	25.1
LnGrp LOS	E	D	D	E	D	D	B	C	B	E	C	C
Approach Vol, veh/h		510			824			1472			755	
Approach Delay, s/veh		50.8			63.8			19.1			31.2	
Approach LOS		D			E			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.9	29.1	14.7	72.4	16.8	36.2	11.1	76.0
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	* 34	15.0	50.0	16.0	37.0	12.0	53.0
Max Q Clear Time (g_c+I1), s	17.7	16.2	9.5	18.6	11.8	18.3	6.1	23.7
Green Ext Time (p_c), s	0.2	1.7	0.2	4.5	0.1	2.5	0.1	11.0

Intersection Summary	
HCM 6th Ctrl Delay	36.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
18: Vanowen St/Driveway & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↱		✥		↰	↑↑			↑↑	↱
Traffic Volume (vph)	392	0	342	0	0	0	230	1000	0	0	918	285
Future Volume (vph)	392	0	342	0	0	0	230	1000	0	0	918	285
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7				6.0	6.0			6.0	6.0
Lane Util. Factor	0.95	0.95	1.00				1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97				1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1681	1538				1770	3539			3539	1560
Flt Permitted	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1681	1538				1770	3539			3539	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	426	0	372	0	0	0	250	1087	0	0	998	310
RTOR Reduction (vph)	0	0	302	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	213	213	70	0	0	0	250	1087	0	0	998	310
Confl. Peds. (#/hr)	7		7	7		7	1					1
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4			3		5	2			6	
Permitted Phases			4	3								6
Actuated Green, G (s)	27.2	27.2	27.2				27.6	105.6			72.0	72.0
Effective Green, g (s)	27.2	27.2	27.2				27.6	105.6			72.0	72.0
Actuated g/C Ratio	0.19	0.19	0.19				0.19	0.73			0.50	0.50
Clearance Time (s)	5.7	5.7	5.7				6.0	6.0			6.0	6.0
Vehicle Extension (s)	3.5	3.5	3.5				2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	316	316	289				338	2586			1763	777
v/s Ratio Prot	c0.13	0.13					c0.14	0.31			c0.28	
v/s Ratio Perm			0.05									0.20
v/c Ratio	0.67	0.67	0.24				0.74	0.42			0.57	0.40
Uniform Delay, d1	54.5	54.5	49.9				55.1	7.6			25.3	22.7
Progression Factor	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2	5.8	5.8	0.5				7.1	0.5			1.3	1.5
Delay (s)	60.3	60.3	50.4				62.2	8.1			26.7	24.2
Level of Service	E	E	D				E	A			C	C
Approach Delay (s)		55.7			0.0			18.2			26.1	
Approach LOS		E			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	29.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	144.5	Sum of lost time (s)	22.3
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
19: Victory Blvd & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	200	766	160	123	127	211	273	858	70	320	851	107
Future Volume (veh/h)	200	766	160	123	127	211	273	858	70	320	851	107
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	798	167	128	132	220	284	894	73	333	886	111
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	422	879	381	194	759	327	377	1436	622	396	1495	648
Arrive On Green	0.10	0.25	0.25	0.07	0.21	0.21	0.11	0.40	0.40	0.13	0.42	0.42
Sat Flow, veh/h	1781	3554	1539	1781	3554	1532	1781	3554	1539	1781	3554	1541
Grp Volume(v), veh/h	208	798	167	128	132	220	284	894	73	333	886	111
Grp Sat Flow(s),veh/h/ln	1781	1777	1539	1781	1777	1532	1781	1777	1539	1781	1777	1541
Q Serve(g_s), s	12.4	30.5	12.8	7.8	4.2	18.5	12.9	28.0	4.2	15.1	26.9	6.3
Cycle Q Clear(g_c), s	12.4	30.5	12.8	7.8	4.2	18.5	12.9	28.0	4.2	15.1	26.9	6.3
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	422	879	381	194	759	327	377	1436	622	396	1495	648
V/C Ratio(X)	0.49	0.91	0.44	0.66	0.17	0.67	0.75	0.62	0.12	0.84	0.59	0.17
Avail Cap(c_a), veh/h	479	924	400	310	924	398	613	1436	622	602	1495	648
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	35.6	51.1	44.5	41.6	44.9	50.5	24.0	33.2	26.1	25.3	31.3	25.3
Incr Delay (d2), s/veh	0.7	12.3	0.8	2.9	0.1	3.3	2.3	2.0	0.4	5.6	1.7	0.6
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(50%),veh/ln	5.5	15.1	5.0	3.6	1.9	7.4	5.6	12.5	1.6	6.9	12.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.2	63.4	45.3	44.4	45.1	53.8	26.3	35.3	26.5	30.9	33.0	25.9
LnGrp LOS	D	E	D	D	D	D	C	D	C	C	C	C
Approach Vol, veh/h		1173			480			1251			1330	
Approach Delay, s/veh		56.0			48.9			32.7			31.9	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.4	40.6	20.1	64.9	19.1	35.9	22.4	62.6
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	19.0	36.4	34.0	29.4	19.0	36.4	34.0	29.4
Max Q Clear Time (g_c+I1), s	9.8	32.5	14.9	28.9	14.4	20.5	17.1	30.0
Green Ext Time (p_c), s	0.1	2.1	0.6	0.3	0.2	1.4	0.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	40.7
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
20: Burbank Blvd & Buena Vista St

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	147	578	188	145	550	123	206	974	120	142	888	208
Future Volume (veh/h)	147	578	188	145	550	123	206	974	120	142	888	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	602	196	151	573	128	215	1015	125	148	925	217
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	714	316	222	711	315	340	1798	798	306	1727	766
Arrive On Green	0.08	0.20	0.20	0.08	0.20	0.20	0.08	0.51	0.51	0.06	0.49	0.49
Sat Flow, veh/h	1781	3554	1573	1781	3554	1573	1781	3554	1577	1781	3554	1576
Grp Volume(v), veh/h	153	602	196	151	573	128	215	1015	125	148	925	217
Grp Sat Flow(s),veh/h/ln	1781	1777	1573	1781	1777	1573	1781	1777	1577	1781	1777	1576
Q Serve(g_s), s	9.4	22.8	15.9	9.3	21.5	9.9	8.4	27.7	6.0	5.8	25.3	11.5
Cycle Q Clear(g_c), s	9.4	22.8	15.9	9.3	21.5	9.9	8.4	27.7	6.0	5.8	25.3	11.5
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	232	714	316	222	711	315	340	1798	798	306	1727	766
V/C Ratio(X)	0.66	0.84	0.62	0.68	0.81	0.41	0.63	0.56	0.16	0.48	0.54	0.28
Avail Cap(c_a), veh/h	277	873	387	268	873	387	673	1798	798	674	1727	766
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	41.5	53.8	51.0	41.8	53.4	48.7	19.2	23.9	18.6	19.1	25.0	21.4
Incr Delay (d2), s/veh	3.6	6.4	2.1	4.4	4.6	0.8	1.5	1.3	0.4	0.9	1.2	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(50%),veh/ln	4.4	10.8	6.5	4.4	10.1	4.0	3.6	11.9	2.3	2.5	11.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.2	60.1	53.1	46.3	58.0	49.6	20.7	25.2	19.0	19.9	26.2	22.4
LnGrp LOS	D	E	D	D	E	D	C	C	B	B	C	C
Approach Vol, veh/h		951			852			1355			1290	
Approach Delay, s/veh		56.3			54.6			23.9			24.8	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	34.1	15.8	74.0	16.1	34.0	13.1	76.8
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	15.0	34.4	37.0	32.0	15.0	34.4	37.0	32.0
Max Q Clear Time (g_c+I1), s	11.3	24.8	10.4	27.3	11.4	23.5	7.8	29.7
Green Ext Time (p_c), s	0.1	3.3	0.4	2.8	0.1	3.2	0.3	1.6

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
21: Magnolia Blvd & Buena Vista St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	175	762	92	107	785	217	149	930	187	263	647	129
Future Volume (veh/h)	175	762	92	107	785	217	149	930	187	263	647	129
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	180	786	95	110	809	224	154	959	193	271	667	133
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	220	965	425	199	862	379	386	1462	641	329	1594	699
Arrive On Green	0.09	0.27	0.27	0.06	0.24	0.24	0.07	0.41	0.41	0.10	0.45	0.45
Sat Flow, veh/h	1781	3554	1564	1781	3554	1562	1781	3554	1557	1781	3554	1560
Grp Volume(v), veh/h	180	786	95	110	809	224	154	959	193	271	667	133
Grp Sat Flow(s),veh/h/ln	1781	1777	1564	1781	1777	1562	1781	1777	1557	1781	1777	1560
Q Serve(g_s), s	10.4	29.0	6.6	6.4	31.3	17.8	6.9	30.5	11.7	11.8	17.8	7.2
Cycle Q Clear(g_c), s	10.4	29.0	6.6	6.4	31.3	17.8	6.9	30.5	11.7	11.8	17.8	7.2
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	220	965	425	199	862	379	386	1462	641	329	1594	699
V/C Ratio(X)	0.82	0.81	0.22	0.55	0.94	0.59	0.40	0.66	0.30	0.82	0.42	0.19
Avail Cap(c_a), veh/h	253	965	425	283	873	384	740	1462	641	617	1594	699
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	38.1	47.7	39.6	39.0	52.0	46.9	21.7	33.2	27.7	26.3	26.2	23.3
Incr Delay (d2), s/veh	15.8	5.5	0.3	1.8	17.3	2.4	0.5	2.3	1.2	3.9	0.8	0.6
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(50%),veh/ln	5.5	13.6	2.6	2.9	16.0	7.2	3.0	13.6	4.6	5.3	7.8	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.9	53.2	39.8	40.7	69.3	49.2	22.2	35.5	28.9	30.2	27.0	23.9
LnGrp LOS	D	D	D	D	E	D	C	D	C	C	C	C
Approach Vol, veh/h		1061			1143			1306			1071	
Approach Delay, s/veh		52.1			62.6			33.0			27.4	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	44.0	14.2	68.8	17.0	40.0	19.4	63.6
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	15.0	34.4	37.0	32.0	15.0	34.4	37.0	32.0
Max Q Clear Time (g_c+I1), s	8.4	31.0	8.9	19.8	12.4	33.3	13.8	32.5
Green Ext Time (p_c), s	0.1	1.8	0.3	4.0	0.1	0.7	0.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
22: Olive Ave & Buena Vista St

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	339	951	96	124	615	57	101	801	156	95	397	186
Future Volume (veh/h)	339	951	96	124	615	57	101	801	156	95	397	186
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.99	1.00		0.98
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	361	1012	102	132	654	61	107	852	166	101	422	198
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	384	1065	107	190	736	69	393	1423	625	252	1415	622
Arrive On Green	0.17	0.33	0.33	0.07	0.22	0.22	0.05	0.40	0.40	0.05	0.40	0.40
Sat Flow, veh/h	1781	3255	328	1781	3279	305	1781	3554	1561	1781	3554	1561
Grp Volume(v), veh/h	361	552	562	132	354	361	107	852	166	101	422	198
Grp Sat Flow(s),veh/h/ln	1781	1777	1806	1781	1777	1808	1781	1777	1561	1781	1777	1561
Q Serve(g_s), s	22.1	42.5	42.5	7.9	27.0	27.1	4.9	26.5	10.0	4.7	11.4	12.2
Cycle Q Clear(g_c), s	22.1	42.5	42.5	7.9	27.0	27.1	4.9	26.5	10.0	4.7	11.4	12.2
Prop In Lane	1.00		0.18	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	384	581	591	190	399	406	393	1423	625	252	1415	622
V/C Ratio(X)	0.94	0.95	0.95	0.69	0.89	0.89	0.27	0.60	0.27	0.40	0.30	0.32
Avail Cap(c_a), veh/h	418	581	591	305	449	457	420	1423	625	283	1415	622
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	37.6	46.0	46.0	40.9	52.6	52.6	23.3	33.1	28.2	25.8	28.8	29.0
Incr Delay (d2), s/veh	27.9	25.5	25.3	3.4	17.6	17.7	0.3	1.9	1.0	0.8	0.5	1.3
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(50%),veh/ln	12.6	22.8	23.1	3.7	14.0	14.3	2.1	11.8	4.0	2.1	5.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.4	71.4	71.3	44.2	70.2	70.3	23.6	35.0	29.2	26.6	29.3	30.4
LnGrp LOS	E	E	E	D	E	E	C	C	C	C	C	C
Approach Vol, veh/h		1475			847			1125			721	
Approach Delay, s/veh		69.9			66.2			33.0			29.2	
Approach LOS		E			E			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.6	51.8	11.9	61.7	28.9	37.4	11.6	62.0				
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0				
Max Green Setting (Gmax), s	19.0	43.4	9.0	47.0	27.0	35.4	9.0	47.0				
Max Q Clear Time (g_c+I1), s	9.9	44.5	6.9	14.2	24.1	29.1	6.7	28.5				
Green Ext Time (p_c), s	0.2	0.0	0.0	3.8	0.3	2.3	0.0	6.5				
Intersection Summary												
HCM 6th Ctrl Delay			52.2									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary
23: Alameda Ave & Buena Vista St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	225	987	133	231	545	215	107	693	134	269	320	61
Future Volume (veh/h)	225	987	133	231	545	215	107	693	134	269	320	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.98		0.96	1.00		0.97
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	1050	141	246	580	229	114	737	143	286	340	65
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	288	1120	491	295	1152	506	453	1115	479	352	1342	581
Arrive On Green	0.08	0.32	0.32	0.09	0.32	0.32	0.06	0.31	0.31	0.12	0.38	0.38
Sat Flow, veh/h	3456	3554	1559	3456	3554	1560	1781	3554	1527	1781	3554	1537
Grp Volume(v), veh/h	239	1050	141	246	580	229	114	737	143	286	340	65
Grp Sat Flow(s),veh/h/ln	1728	1777	1559	1728	1777	1560	1781	1777	1527	1781	1777	1537
Q Serve(g_s), s	9.5	40.2	7.6	9.8	18.5	16.3	6.0	25.1	7.4	14.7	9.2	3.8
Cycle Q Clear(g_c), s	9.5	40.2	7.6	9.8	18.5	16.3	6.0	25.1	7.4	14.7	9.2	3.8
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	288	1120	491	295	1152	506	453	1115	479	352	1342	581
V/C Ratio(X)	0.83	0.94	0.29	0.83	0.50	0.45	0.25	0.66	0.30	0.81	0.25	0.11
Avail Cap(c_a), veh/h	346	1142	501	346	1152	506	605	1115	479	403	1342	581
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	63.2	46.6	23.2	63.0	38.2	37.5	29.5	41.6	20.5	30.0	30.0	28.3
Incr Delay (d2), s/veh	12.5	14.1	0.3	13.4	0.4	0.6	0.2	3.1	1.6	10.1	0.5	0.4
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(50%),veh/ln	4.7	19.9	2.9	4.9	8.2	6.4	2.6	11.5	2.9	7.3	4.1	1.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.7	60.7	23.5	76.4	38.6	38.1	29.8	44.7	22.1	40.1	30.4	28.7
LnGrp LOS	E	E	C	E	D	D	C	D	C	D	C	C
Approach Vol, veh/h		1430			1055			994			691	
Approach Delay, s/veh		59.5			47.3			39.7			34.3	
Approach LOS		E			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.0	50.1	13.1	58.9	16.7	51.4	22.0	49.9
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	14.0	* 45	20.0	39.0	14.0	45.0	21.0	38.0
Max Q Clear Time (g_c+I1), s	11.8	42.2	8.0	11.2	11.5	20.5	16.7	27.1
Green Ext Time (p_c), s	0.1	1.9	0.1	2.5	0.2	5.0	0.3	4.2

Intersection Summary	
HCM 6th Ctrl Delay	47.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
24: Riverside Dr & SR 134 Ramps/Buena Vista St & SR 134 WB On Ramp

10/27/2021

Movement	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL
Lane Configurations	↰	↰	↰↑	↱	↰	↑↱		↰	↑↱		↱	↰
Traffic Volume (vph)	65	274	310	223	120	649	69	108	184	37	329	101
Future Volume (vph)	65	274	310	223	120	649	69	108	184	37	329	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.91		0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00		1.00	0.99		0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.99		1.00	0.92		0.85	1.00
Flt Protected	0.95	0.95	0.99	1.00	0.95	1.00		0.95	1.00		1.00	0.95
Satd. Flow (prot)	1770	1681	1746	1555	1770	3483		1770	3104		1416	1770
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00		0.95	1.00		1.00	0.95
Satd. Flow (perm)	1770	1770	1770	1555	1770	3483		1770	3104		1416	1770
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	68	285	323	232	125	676	72	112	192	39	343	105
RTOR Reduction (vph)	0	0	0	53	0	4	0	0	0	0	0	0
Lane Group Flow (vph)	68	168	440	179	125	744	0	113	392	0	182	105
Confl. Peds. (#/hr)		3		3	3		1	1			3	3
Turn Type	Prot	Perm	NA	Perm	Split	NA		Split	NA		Perm	Prot
Protected Phases	1		6		8	8		7	7			5
Permitted Phases		6		6							7	
Actuated Green, G (s)	12.2	50.7	50.7	50.7	41.5	41.5		28.7	28.7		28.7	15.0
Effective Green, g (s)	12.2	50.7	50.7	50.7	41.5	41.5		28.7	28.7		28.7	15.0
Actuated g/C Ratio	0.08	0.32	0.32	0.32	0.26	0.26		0.18	0.18		0.18	0.09
Clearance Time (s)	4.6	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	4.6
Vehicle Extension (s)	2.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	2.5
Lane Grp Cap (vph)	134	560	560	492	459	903		317	556		253	165
v/s Ratio Prot	0.04				0.07	c0.21		0.06	0.13			c0.06
v/s Ratio Perm		0.09	0.25	0.11							c0.13	
v/c Ratio	0.51	0.30	0.79	0.36	0.27	0.82		0.36	0.71		0.72	0.64
Uniform Delay, d1	71.0	41.3	49.7	42.2	47.2	55.8		57.6	61.7		61.9	69.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	2.2	0.4	7.4	0.5	0.4	6.3		0.8	4.2		9.7	6.9
Delay (s)	73.2	41.6	57.1	42.7	47.6	62.2		58.4	65.9		71.6	76.7
Level of Service	E	D	E	D	D	E		E	E		E	E
Approach Delay (s)			51.8			60.1			66.2			72.6
Approach LOS			D			E			E			E

Intersection Summary			
HCM 2000 Control Delay	62.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	160.0	Sum of lost time (s)	24.1
Intersection Capacity Utilization	96.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NER
Lane Configurations	↱↱
Traffic Volume (vph)	856
Future Volume (vph)	856
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.5
Lane Util. Factor	0.88
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	2787
Flt Permitted	1.00
Satd. Flow (perm)	2787
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	892
RTOR Reduction (vph)	0
Lane Group Flow (vph)	892
Confl. Peds. (#/hr)	1
Turn Type	Prot
Protected Phases	2
Permitted Phases	
Actuated Green, G (s)	53.5
Effective Green, g (s)	53.5
Actuated g/C Ratio	0.33
Clearance Time (s)	6.5
Vehicle Extension (s)	3.5
Lane Grp Cap (vph)	931
v/s Ratio Prot	c0.32
v/s Ratio Perm	
v/c Ratio	0.96
Uniform Delay, d1	52.2
Progression Factor	1.00
Incremental Delay, d2	20.0
Delay (s)	72.1
Level of Service	E
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
25: Burbank Blvd & Victory Blvd

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↰↑	↱
Traffic Volume (vph)	142	1214	246	252	1493	578	455	508	228	735	487	146
Future Volume (vph)	142	1214	246	252	1493	578	455	508	228	735	487	146
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.86	0.86	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)	3433	5085	1559	3433	5085	1570	3433	3539	1570	3044	3170	1522
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)	3433	5085	1559	3433	5085	1570	3433	3539	1570	3044	3170	1522
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	143	1226	248	255	1508	584	460	513	230	742	492	147
RTOR Reduction (vph)	0	0	37	0	0	57	0	0	33	0	0	54
Lane Group Flow (vph)	143	1226	211	255	1508	527	460	513	197	608	626	93
Confl. Peds. (#/hr)	2		7	7		2	18		1	1		18
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	1	6	7	5	2	3	7	7	5	3	3	
Permitted Phases			6			2			7			3
Actuated Green, G (s)	12.7	57.9	93.0	18.3	63.5	111.2	35.1	35.1	53.4	47.7	47.7	47.7
Effective Green, g (s)	12.7	57.9	93.0	18.3	63.5	111.2	35.1	35.1	53.4	47.7	47.7	47.7
Actuated g/C Ratio	0.07	0.32	0.51	0.10	0.35	0.61	0.19	0.19	0.29	0.26	0.26	0.26
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	239	1617	796	345	1774	1011	662	682	460	797	830	398
v/s Ratio Prot	0.04	0.24	0.05	c0.07	c0.30	0.14	0.13	c0.14	0.04	c0.20	0.20	
v/s Ratio Perm			0.08			0.20			0.08			0.06
v/c Ratio	0.60	0.76	0.27	0.74	0.85	0.52	0.69	0.75	0.43	0.76	0.75	0.23
Uniform Delay, d1	82.2	55.8	25.2	79.5	54.8	20.2	68.5	69.3	52.0	61.9	61.8	52.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.3	2.1	0.2	7.0	4.1	0.5	3.2	4.7	0.2	4.4	3.9	0.3
Delay (s)	85.5	57.8	25.4	86.5	59.0	20.7	71.6	74.0	52.2	66.3	65.7	53.1
Level of Service	F	E	C	F	E	C	E	E	D	E	E	D
Approach Delay (s)		55.3			52.4			68.9			64.6	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	58.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	182.0	Sum of lost time (s)	23.0
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
26: Victory Blvd/Victory Pl & Magnolia Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	159	852	211	144	607	179	219	832	147	266	884	140
Future Volume (veh/h)	159	852	211	144	607	179	219	832	147	266	884	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	161	861	213	145	613	181	221	840	148	269	893	141
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	611	151	191	746	327	357	1624	716	387	1676	739
Arrive On Green	0.09	0.22	0.22	0.08	0.21	0.21	0.08	0.46	0.46	0.10	0.47	0.47
Sat Flow, veh/h	1781	2812	695	1781	3554	1556	1781	3554	1567	1781	3554	1568
Grp Volume(v), veh/h	161	544	530	145	613	181	221	840	148	269	893	141
Grp Sat Flow(s),veh/h/ln	1781	1777	1730	1781	1777	1556	1781	1777	1567	1781	1777	1568
Q Serve(g_s), s	9.8	30.4	30.4	8.8	23.1	14.6	9.1	23.5	7.9	11.1	24.8	7.3
Cycle Q Clear(g_c), s	9.8	30.4	30.4	8.8	23.1	14.6	9.1	23.5	7.9	11.1	24.8	7.3
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	386	376	191	746	327	357	1624	716	387	1676	739
V/C Ratio(X)	0.69	1.41	1.41	0.76	0.82	0.55	0.62	0.52	0.21	0.69	0.53	0.19
Avail Cap(c_a), veh/h	400	386	376	370	772	338	581	1624	716	585	1676	739
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	40.7	54.8	54.8	41.7	52.8	49.4	20.1	27.0	22.8	20.2	26.1	21.5
Incr Delay (d2), s/veh	1.3	199.2	200.1	2.4	6.9	1.8	0.7	1.2	0.7	0.8	1.2	0.6
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(50%),veh/ln	4.4	34.9	34.1	4.0	11.0	5.9	3.9	10.3	3.1	4.7	10.8	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.0	254.0	254.9	44.1	59.7	51.3	20.8	28.2	23.4	21.0	27.3	22.0
LnGrp LOS	D	F	F	D	E	D	C	C	C	C	C	C
Approach Vol, veh/h		1235			939			1209			1303	
Approach Delay, s/veh		226.8			55.7			26.3			25.5	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	72.0	15.5	36.4	18.1	70.0	16.5	35.4
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	29.0	34.4	25.0	30.4	29.0	34.4	25.0	30.4
Max Q Clear Time (g_c+I1), s	11.1	26.8	10.8	32.4	13.1	25.5	11.8	25.1
Green Ext Time (p_c), s	0.3	3.9	0.2	0.0	0.3	4.1	0.2	2.2

Intersection Summary	
HCM 6th Ctrl Delay	84.8
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
27: Olive Ave & Victory Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	226	934	41	113	679	198	82	761	165	159	798	244
Future Volume (veh/h)	226	934	41	113	679	198	82	761	165	159	798	244
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
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	231	953	42	115	693	202	84	777	168	162	814	249
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	394	1661	73	299	1580	692	166	845	364	211	964	417
Arrive On Green	0.08	0.48	0.48	0.05	0.44	0.44	0.05	0.24	0.24	0.08	0.27	0.27
Sat Flow, veh/h	1781	3464	153	1781	3554	1556	1781	3554	1531	1781	3554	1538
Grp Volume(v), veh/h	231	489	506	115	693	202	84	777	168	162	814	249
Grp Sat Flow(s),veh/h/ln	1781	1777	1840	1781	1777	1556	1781	1777	1531	1781	1777	1538
Q Serve(g_s), s	9.5	27.7	27.7	4.9	18.8	11.6	4.9	29.9	13.2	9.3	30.3	19.7
Cycle Q Clear(g_c), s	9.5	27.7	27.7	4.9	18.8	11.6	4.9	29.9	13.2	9.3	30.3	19.7
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	394	852	882	299	1580	692	166	845	364	211	964	417
V/C Ratio(X)	0.59	0.57	0.57	0.38	0.44	0.29	0.51	0.92	0.46	0.77	0.84	0.60
Avail Cap(c_a), veh/h	613	852	882	580	1580	692	322	873	376	308	964	417
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	19.2	26.2	26.2	21.5	26.8	24.8	40.2	52.1	45.7	38.5	48.2	44.4
Incr Delay (d2), s/veh	0.5	2.8	2.7	0.3	0.9	1.1	0.9	14.4	0.9	3.5	7.0	2.3
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(50%),veh/ln	4.0	12.4	12.8	2.1	8.3	4.5	2.2	15.0	5.1	4.3	14.4	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.8	29.0	28.9	21.8	27.7	25.9	41.1	66.5	46.6	42.0	55.2	46.7
LnGrp LOS	B	C	C	C	C	C	D	E	D	D	E	D
Approach Vol, veh/h		1226			1010			1029			1225	
Approach Delay, s/veh		27.2			26.7			61.2			51.7	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	73.1	11.3	44.0	16.4	68.3	16.0	39.3
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	29.0	36.4	19.0	34.4	29.0	36.4	19.0	34.4
Max Q Clear Time (g_c+I1), s	6.9	29.7	6.9	32.3	11.5	20.8	11.3	31.9
Green Ext Time (p_c), s	0.1	3.4	0.1	1.3	0.3	5.0	0.1	1.4

Intersection Summary	
HCM 6th Ctrl Delay	41.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
28: Alameda Ave & Victory Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰↰	↑↱	
Traffic Volume (veh/h)	72	1365	135	111	578	256	120	442	132	367	538	42
Future Volume (veh/h)	72	1365	135	111	578	256	120	442	132	367	538	42
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	1.00		0.99
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	74	1407	139	114	596	264	124	456	136	378	555	43
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	386	1790	793	191	1806	800	210	524	155	513	1112	86
Arrive On Green	0.04	0.50	0.50	0.04	0.51	0.51	0.19	0.19	0.19	0.11	0.33	0.33
Sat Flow, veh/h	1781	3554	1575	1781	3554	1575	814	2692	796	3456	3339	258
Grp Volume(v), veh/h	74	1407	139	114	596	264	124	300	292	378	295	303
Grp Sat Flow(s),veh/h/ln	1781	1777	1575	1781	1777	1575	814	1777	1711	1728	1777	1821
Q Serve(g_s), s	2.8	45.5	6.7	4.3	13.9	13.9	20.3	22.9	23.2	11.8	18.6	18.7
Cycle Q Clear(g_c), s	2.8	45.5	6.7	4.3	13.9	13.9	20.3	22.9	23.2	11.8	18.6	18.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.14
Lane Grp Cap(c), veh/h	386	1790	793	191	1806	800	210	346	333	513	591	606
V/C Ratio(X)	0.19	0.79	0.18	0.60	0.33	0.33	0.59	0.87	0.88	0.74	0.50	0.50
Avail Cap(c_a), veh/h	441	1790	793	238	1806	800	228	386	372	717	736	754
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	15.9	28.6	18.9	26.5	20.4	20.3	53.5	54.6	54.7	39.8	37.3	37.4
Incr Delay (d2), s/veh	0.1	3.6	0.5	1.1	0.5	1.1	3.4	17.0	19.1	2.5	0.7	0.6
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(50%),veh/ln	1.2	20.0	2.6	1.8	5.9	5.4	4.4	11.9	11.8	5.2	8.3	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.0	32.1	19.4	27.6	20.8	21.5	57.0	71.6	73.9	42.3	38.0	38.0
LnGrp LOS	B	C	B	C	C	C	E	E	E	D	D	D
Approach Vol, veh/h		1620			974			716			976	
Approach Delay, s/veh		30.3			21.8			70.0			39.7	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	19.3	33.3	10.9	76.5		52.6	10.3	77.1				
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0		6.0	4.6	6.0				
Max Green Setting (Gmax), s	23.0	30.4	10.0	55.4		58.0	10.0	55.4				
Max Q Clear Time (g_c+I1), s	13.8	25.2	6.3	47.5		20.7	4.8	15.9				
Green Ext Time (p_c), s	0.9	2.0	0.0	5.7		4.1	0.0	5.8				

Intersection Summary			
HCM 6th Ctrl Delay			37.1
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
29: Burbank Blvd & San Fernando Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑	↱↱
Traffic Volume (veh/h)	836	649	576	21	412	87	246	366	20	71	170	446
Future Volume (veh/h)	836	649	576	21	412	87	246	366	20	71	170	446
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		1.00	1.00		0.97	1.00		0.98	1.00		0.94
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	853	662	0	21	420	89	251	373	20	72	173	455
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	946	1256		82	683	295	412	952	51	103	383	539
Arrive On Green	0.20	0.35	0.00	0.05	0.19	0.19	0.12	0.28	0.28	0.06	0.20	0.20
Sat Flow, veh/h	3456	3554	1585	1781	3554	1536	3456	3426	183	1781	1870	2633
Grp Volume(v), veh/h	853	662	0	21	420	89	251	193	200	72	173	455
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1536	1728	1777	1832	1781	1870	1317
Q Serve(g_s), s	13.5	12.5	0.0	1.0	9.1	4.2	5.8	7.4	7.5	3.3	6.8	10.9
Cycle Q Clear(g_c), s	13.5	12.5	0.0	1.0	9.1	4.2	5.8	7.4	7.5	3.3	6.8	10.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	946	1256		82	683	295	412	494	509	103	383	539
V/C Ratio(X)	0.90	0.53		0.26	0.62	0.30	0.61	0.39	0.39	0.70	0.45	0.84
Avail Cap(c_a), veh/h	1090	1265		634	1265	547	2461	1265	1305	423	666	938
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	21.6	0.0	38.8	31.2	29.2	35.2	24.6	24.7	39.0	29.3	19.5
Incr Delay (d2), s/veh	8.8	0.5	0.0	2.0	1.1	0.7	3.1	0.6	0.6	3.1	0.6	2.8
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(50%),veh/ln	9.1	5.1	0.0	0.5	3.9	1.6	2.6	3.1	3.2	1.5	3.1	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	22.1	0.0	40.7	32.3	29.9	38.4	25.3	25.3	42.1	30.0	22.3
LnGrp LOS	D	C		D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1515	A		530			644			700	
Approach Delay, s/veh		31.6			32.2			30.4			26.2	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	29.7	22.5	22.2	16.3	23.3	8.9	35.8
Change Period (Y+Rc), s	5.0	6.3	6.0	* 6	6.3	* 6	5.0	6.0
Max Green Setting (Gmax), s	20.0	60.0	20.0	* 30	60.0	* 30	30.0	30.0
Max Q Clear Time (g_c+I1), s	5.3	9.5	15.5	11.1	7.8	12.9	3.0	14.5
Green Ext Time (p_c), s	0.1	3.1	1.0	3.5	2.2	2.2	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

30: Magnolia Blvd & First St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	296	788	325	64	563	93	258	417	128	152	369	231
Future Volume (veh/h)	296	788	325	64	563	93	258	417	128	152	369	231
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		0.99	1.00		0.99
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	312	829	342	67	593	98	272	439	135	160	388	243
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	1798	760	315	1578	837	287	649	287	278	649	423
Arrive On Green	0.09	0.48	0.48	0.05	0.44	0.44	0.09	0.18	0.18	0.09	0.18	0.18
Sat Flow, veh/h	1781	3741	1580	1781	3554	1580	1781	3554	1572	1781	3554	1572
Grp Volume(v), veh/h	312	829	342	67	593	98	272	439	135	160	388	243
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1781	1777	1580	1781	1777	1572	1781	1777	1572
Q Serve(g_s), s	9.0	15.5	15.1	2.1	11.7	3.3	9.0	12.1	8.1	7.6	10.5	14.0
Cycle Q Clear(g_c), s	9.0	15.5	15.1	2.1	11.7	3.3	9.0	12.1	8.1	7.6	10.5	14.0
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	471	1798	760	315	1578	837	287	649	287	278	649	423
V/C Ratio(X)	0.66	0.46	0.45	0.21	0.38	0.12	0.95	0.68	0.47	0.58	0.60	0.57
Avail Cap(c_a), veh/h	471	1798	760	381	1578	837	287	1097	485	278	1097	621
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	16.0	18.2	18.1	14.8	19.5	12.4	38.2	40.0	38.4	31.7	39.4	33.2
Incr Delay (d2), s/veh	2.8	0.9	1.9	0.1	0.7	0.3	39.1	1.2	1.2	1.9	0.9	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(50%),veh/ln	4.3	6.7	5.7	0.8	4.9	1.2	5.8	5.4	3.2	3.4	4.6	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	19.0	20.0	14.9	20.2	12.7	77.3	41.3	39.6	33.7	40.3	34.5
LnGrp LOS	B	B	B	B	C	B	E	D	D	C	D	C
Approach Vol, veh/h		1483			758			846			791	
Approach Delay, s/veh		19.2			18.7			52.6			37.2	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	56.5	13.6	25.2	13.6	52.6	13.6	25.2
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	9.0	33.4	9.0	32.4	9.0	33.4	9.0	32.4
Max Q Clear Time (g_c+I1), s	4.1	17.5	9.6	14.1	11.0	13.7	11.0	16.0
Green Ext Time (p_c), s	0.0	6.5	0.0	3.2	0.0	4.3	0.0	3.1

Intersection Summary			
HCM 6th Ctrl Delay			30.1
HCM 6th LOS			C

Notes
User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
31: Olive Ave & First St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	338	780	235	55	492	134	188	344	70	63	358	133
Future Volume (veh/h)	338	780	235	55	492	134	188	344	70	63	358	133
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.98		0.95	0.97		0.93
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	830	250	59	523	143	200	366	74	67	381	141
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	512	1398	421	280	1636	716	302	705	140	245	649	428
Arrive On Green	0.10	0.52	0.52	0.04	0.46	0.46	0.10	0.24	0.24	0.04	0.18	0.18
Sat Flow, veh/h	1781	2680	807	1781	3554	1556	1781	2923	583	1781	3554	1478
Grp Volume(v), veh/h	360	550	530	59	523	143	200	221	219	67	381	141
Grp Sat Flow(s),veh/h/ln	1781	1777	1710	1781	1777	1556	1781	1777	1728	1781	1777	1478
Q Serve(g_s), s	14.0	30.0	30.1	2.4	13.0	7.6	12.5	15.1	15.5	4.2	13.7	10.6
Cycle Q Clear(g_c), s	14.0	30.0	30.1	2.4	13.0	7.6	12.5	15.1	15.5	4.2	13.7	10.6
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	512	927	892	280	1636	716	302	428	417	245	649	428
V/C Ratio(X)	0.70	0.59	0.59	0.21	0.32	0.20	0.66	0.51	0.53	0.27	0.59	0.33
Avail Cap(c_a), veh/h	512	927	892	390	1636	716	302	571	556	350	1142	634
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	18.3	23.2	23.2	20.0	23.9	22.5	40.1	46.0	46.2	44.0	52.4	39.8
Incr Delay (d2), s/veh	4.1	2.8	2.9	0.1	0.5	0.6	4.9	1.2	1.2	0.2	1.0	0.5
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(50%),veh/ln	6.7	13.2	12.8	1.0	5.7	3.0	5.9	6.8	6.8	1.9	6.3	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	26.0	26.1	20.2	24.4	23.1	45.0	47.2	47.4	44.2	53.4	40.4
LnGrp LOS	C	C	C	C	C	C	D	D	D	D	D	D
Approach Vol, veh/h		1440			725			640			589	
Approach Delay, s/veh		25.1			23.8			46.6			49.3	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.8	39.7	19.0	70.4	19.0	31.6	10.4	79.1
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	14.0	45.0	14.0	45.0	14.0	45.0	14.0	45.0
Max Q Clear Time (g_c+I1), s	6.2	17.5	16.0	15.0	14.5	15.7	4.4	32.1
Green Ext Time (p_c), s	0.0	3.4	0.0	5.3	0.0	3.9	0.0	6.8

Intersection Summary			
HCM 6th Ctrl Delay			33.1
HCM 6th LOS			C

HCM 6th Signalized Intersection Summary
32: Alameda Ave & San Fernando Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↱		↰	↑↱		↰↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	351	852	249	60	467	67	410	585	93	133	471	185
Future Volume (veh/h)	351	852	249	60	467	67	410	585	93	133	471	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	0.99		0.96	1.00		0.95
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	373	906	265	64	497	71	436	622	99	141	501	197
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1128	1314	383	82	618	88	591	711	113	215	692	293
Arrive On Green	0.33	0.49	0.49	0.05	0.20	0.20	0.12	0.23	0.23	0.08	0.19	0.19
Sat Flow, veh/h	3456	2699	787	1781	3100	440	3456	3050	484	1781	3554	1504
Grp Volume(v), veh/h	373	596	575	64	284	284	436	362	359	141	501	197
Grp Sat Flow(s),veh/h/ln	1728	1777	1709	1781	1777	1764	1728	1777	1758	1781	1777	1504
Q Serve(g_s), s	11.4	36.2	36.4	5.0	21.3	21.5	13.7	27.4	27.6	8.8	18.5	8.3
Cycle Q Clear(g_c), s	11.4	36.2	36.4	5.0	21.3	21.5	13.7	27.4	27.6	8.8	18.5	8.3
Prop In Lane	1.00		0.46	1.00		0.25	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	1128	865	832	82	354	352	591	414	410	215	692	293
V/C Ratio(X)	0.33	0.69	0.69	0.78	0.80	0.81	0.74	0.87	0.88	0.66	0.72	0.67
Avail Cap(c_a), veh/h	1128	865	832	280	609	605	662	470	465	230	762	322
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	35.6	27.7	27.8	66.1	53.4	53.5	38.7	51.7	51.8	42.5	52.8	12.4
Incr Delay (d2), s/veh	0.1	4.5	4.7	11.1	17.1	17.9	3.6	15.6	16.1	5.4	3.3	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(50%),veh/ln	4.9	16.4	15.9	2.5	11.2	11.3	6.1	14.0	14.0	4.2	8.6	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.7	32.2	32.5	77.1	70.5	71.4	42.3	67.3	67.9	47.9	56.1	17.6
LnGrp LOS	D	C	C	E	E	E	D	E	E	D	E	B
Approach Vol, veh/h		1544			632			1157			839	
Approach Delay, s/veh		33.1			71.6			58.1			45.7	
Approach LOS		C			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.1	33.3	51.7	33.9	15.8	38.6	11.5	74.2
Change Period (Y+Rc), s	5.0	6.0	6.0	* 6	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	30.0	21.0	* 48	12.0	37.0	22.0	47.0
Max Q Clear Time (g_c+I1), s	15.7	20.5	13.4	23.5	10.8	29.6	7.0	38.4
Green Ext Time (p_c), s	0.5	3.3	0.7	4.4	0.0	3.0	0.1	5.4

Intersection Summary	
HCM 6th Ctrl Delay	48.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
33: Magnolia Blvd & Glenoaks Blvd

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	186	275	208	35	238	45	175	1212	62	85	983	146
Future Volume (veh/h)	186	275	208	35	238	45	175	1212	62	85	983	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.98		0.95	1.00		0.97	1.00		0.95
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	194	286	217	36	248	47	182	1262	65	89	1024	152
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	306	527	423	214	835	155	304	1628	84	255	1412	209
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.08	0.47	0.47	0.06	0.46	0.46
Sat Flow, veh/h	1053	1870	1502	880	2963	550	1781	3432	177	1781	3078	456
Grp Volume(v), veh/h	194	286	217	36	147	148	182	652	675	89	590	586
Grp Sat Flow(s),veh/h/ln	1053	1870	1502	880	1777	1736	1781	1777	1832	1781	1777	1758
Q Serve(g_s), s	16.0	11.7	10.9	3.3	5.8	6.0	4.8	27.5	27.6	2.3	24.2	24.3
Cycle Q Clear(g_c), s	22.0	11.7	10.9	14.9	5.8	6.0	4.8	27.5	27.6	2.3	24.2	24.3
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.10	1.00		0.26
Lane Grp Cap(c), veh/h	306	527	423	214	501	489	304	843	869	255	815	806
V/C Ratio(X)	0.63	0.54	0.51	0.17	0.29	0.30	0.60	0.77	0.78	0.35	0.72	0.73
Avail Cap(c_a), veh/h	337	582	467	240	553	540	348	843	869	327	815	806
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	34.0	27.4	27.1	33.7	25.3	25.4	16.2	19.7	19.7	15.8	19.8	19.8
Incr Delay (d2), s/veh	3.3	0.9	1.0	0.4	0.3	0.3	1.1	6.9	6.7	0.3	5.6	5.7
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(50%),veh/ln	4.3	5.2	3.9	0.7	2.5	2.5	1.9	12.2	12.6	0.9	10.7	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	28.3	28.1	34.1	25.6	25.7	17.3	26.5	26.4	16.2	25.3	25.4
LnGrp LOS	D	C	C	C	C	C	B	C	C	B	C	C
Approach Vol, veh/h		697			331			1509			1265	
Approach Delay, s/veh		30.8			26.6			25.4			24.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.0	48.7		31.4	11.4	47.3		31.4
Change Period (Y+Rc), s	4.6	6.0		6.0	4.6	6.0		6.0
Max Green Setting (Gmax), s	9.0	36.4		28.0	9.0	36.4		28.0
Max Q Clear Time (g_c+I1), s	4.3	29.6		16.9	6.8	26.3		24.0
Green Ext Time (p_c), s	0.0	4.5		1.4	0.1	5.5		1.3

Intersection Summary	
HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
34: Olive Ave & Glenoaks Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	188	351	164	66	212	65	115	1048	77	86	985	98
Future Volume (veh/h)	188	351	164	66	212	65	115	1048	77	86	985	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.97
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	194	362	169	68	219	67	119	1080	79	89	1015	101
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	552	900	413	409	933	277	200	897	66	186	846	84
Arrive On Green	0.09	0.38	0.38	0.05	0.35	0.35	0.07	0.27	0.27	0.06	0.26	0.26
Sat Flow, veh/h	1781	2353	1079	1781	2687	799	1781	3350	245	1781	3254	324
Grp Volume(v), veh/h	194	272	259	68	143	143	119	573	586	89	554	562
Grp Sat Flow(s),veh/h/ln	1781	1777	1655	1781	1777	1709	1781	1777	1818	1781	1777	1801
Q Serve(g_s), s	6.1	10.0	10.3	2.1	5.1	5.4	4.3	24.1	24.1	3.2	23.4	23.4
Cycle Q Clear(g_c), s	6.1	10.0	10.3	2.1	5.1	5.4	4.3	24.1	24.1	3.2	23.4	23.4
Prop In Lane	1.00		0.65	1.00		0.47	1.00		0.13	1.00		0.18
Lane Grp Cap(c), veh/h	552	680	633	409	617	593	200	476	487	186	462	468
V/C Ratio(X)	0.35	0.40	0.41	0.17	0.23	0.24	0.60	1.20	1.20	0.48	1.20	1.20
Avail Cap(c_a), veh/h	570	680	633	490	617	593	258	476	487	258	462	468
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	15.9	20.2	20.3	17.1	20.8	20.9	24.9	32.9	32.9	25.0	33.3	33.3
Incr Delay (d2), s/veh	0.3	1.8	2.0	0.1	0.9	1.0	2.1	110.0	110.2	1.4	109.0	109.1
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(50%),veh/ln	2.4	4.4	4.2	0.9	2.2	2.3	1.9	24.6	25.2	1.4	23.7	24.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.2	22.0	22.3	17.2	21.7	21.9	27.0	143.0	143.1	26.4	142.3	142.4
LnGrp LOS	B	C	C	B	C	C	C	F	F	C	F	F
Approach Vol, veh/h		725			354			1278			1205	
Approach Delay, s/veh		20.5			20.9			132.2			133.8	
Approach LOS		C			C			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	40.4	10.7	29.4	12.7	37.3	10.0	30.1
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	9.0	27.4	9.0	23.4	9.0	27.4	9.0	23.4
Max Q Clear Time (g_c+I1), s	4.1	12.3	6.3	25.4	8.1	7.4	5.2	26.1
Green Ext Time (p_c), s	0.0	3.9	0.0	0.0	0.0	2.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	99.0
HCM 6th LOS	F

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↑↑	↱	↰	↑↑↑↱	
Traffic Volume (veh/h)	391	318	235	59	203	27	208	1052	43	76	916	176
Future Volume (veh/h)	391	318	235	59	203	27	208	1052	43	76	916	176
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.96	0.99		0.97
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	407	331	245	61	211	28	217	1096	45	79	954	183
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	397	638	527	81	263	35	304	1915	572	251	1397	267
Arrive On Green	0.22	0.34	0.34	0.05	0.16	0.16	0.10	0.38	0.38	0.05	0.33	0.33
Sat Flow, veh/h	1781	1870	1545	1781	1605	213	1781	5106	1524	1781	4282	818
Grp Volume(v), veh/h	407	331	245	61	0	239	217	1096	45	79	758	379
Grp Sat Flow(s),veh/h/ln	1781	1870	1545	1781	0	1818	1781	1702	1524	1781	1702	1697
Q Serve(g_s), s	25.0	15.9	13.9	3.8	0.0	14.2	8.7	19.1	2.1	3.3	21.6	21.7
Cycle Q Clear(g_c), s	25.0	15.9	13.9	3.8	0.0	14.2	8.7	19.1	2.1	3.3	21.6	21.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	397	638	527	81	0	298	304	1915	572	251	1111	553
V/C Ratio(X)	1.02	0.52	0.46	0.75	0.00	0.80	0.71	0.57	0.08	0.31	0.68	0.69
Avail Cap(c_a), veh/h	397	751	620	475	0	811	765	2733	816	641	1519	757
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.5	29.5	28.9	52.9	0.0	45.1	24.3	27.9	22.5	23.9	32.7	32.8
Incr Delay (d2), s/veh	51.5	0.9	0.9	9.9	0.0	7.0	1.2	0.4	0.1	0.3	1.1	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(50%),veh/ln	16.6	7.3	5.3	1.9	0.0	7.0	3.7	7.8	0.8	1.4	9.0	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.1	30.5	29.8	62.8	0.0	52.2	25.5	28.3	22.6	24.1	33.8	34.9
LnGrp LOS	F	C	C	E	A	D	C	C	C	C	C	C
Approach Vol, veh/h		983			300			1358			1216	
Approach Delay, s/veh		57.1			54.3			27.6			33.5	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	44.3	15.6	42.6	29.6	24.4	10.1	48.0
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	29.9	45.0	40.0	50.0	25.0	50.0	30.0	60.0
Max Q Clear Time (g_c+I1), s	5.8	17.9	10.7	23.7	27.0	16.2	5.3	21.1
Green Ext Time (p_c), s	0.1	4.5	0.3	12.2	0.0	2.2	0.1	14.6

Intersection Summary			
HCM 6th Ctrl Delay			39.1
HCM 6th LOS			D

Future (2029)
Plus Project
Conditions

HCM 6th Signalized Intersection Summary
1: Winona Ave & Hollywood Way

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	0	0	23	39	2	39	32	946	91	232	2045	23
Future Volume (veh/h)	0	0	23	39	2	39	32	946	91	232	2045	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	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	0	0	24	40	2	40	33	975	94	239	2108	24
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	152	127	162	144	127	236	2414	233	484	3920	45
Arrive On Green	0.00	0.00	0.08	0.08	0.08	0.08	0.04	0.74	0.74	0.06	0.75	0.75
Sat Flow, veh/h	1365	1870	1562	1367	1777	1562	1781	3274	316	1781	5204	59
Grp Volume(v), veh/h	0	0	24	40	2	40	33	529	540	239	1378	754
Grp Sat Flow(s),veh/h/ln	1365	1870	1562	1367	1777	1562	1781	1777	1813	1781	1702	1860
Q Serve(g_s), s	0.0	0.0	2.0	3.9	0.1	3.4	0.6	15.6	15.6	4.5	23.5	23.6
Cycle Q Clear(g_c), s	0.0	0.0	2.0	3.9	0.1	3.4	0.6	15.6	15.6	4.5	23.5	23.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.17	1.00		0.03
Lane Grp Cap(c), veh/h	51	152	127	162	144	127	236	1310	1337	484	2564	1401
V/C Ratio(X)	0.00	0.00	0.19	0.25	0.01	0.32	0.14	0.40	0.40	0.49	0.54	0.54
Avail Cap(c_a), veh/h	365	581	485	476	552	485	340	1310	1337	560	2564	1401
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)	0.00	0.00	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	0.0	0.0	60.0	60.9	59.2	60.6	5.5	6.9	6.9	5.0	7.2	7.2
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.8	0.0	1.4	0.2	0.9	0.9	0.6	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(50%),veh/ln	0.0	0.0	0.8	1.4	0.1	1.4	0.2	5.8	6.0	1.5	8.1	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	60.7	61.7	59.2	62.1	5.7	7.8	7.8	5.6	8.0	8.7
LnGrp LOS	A	A	E	E	E	E	A	A	A	A	A	A
Approach Vol, veh/h		24			82			1102			2371	
Approach Delay, s/veh		60.7			61.8			7.7			8.0	
Approach LOS		E			E			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	111.9		17.4	12.9	109.7		17.4				
Change Period (Y+Rc), s	4.9	6.5		6.0	4.9	6.5		6.0				
Max Green Setting (Gmax), s	14.0	65.1		43.5	14.0	65.1		43.5				
Max Q Clear Time (g_c+I1), s	2.6	25.6		5.9	6.5	17.6		4.0				
Green Ext Time (p_c), s	0.0	24.5		0.3	0.3	9.2		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			9.5									
HCM 6th LOS			A									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	167	53	168	109	129	48	131	813	180	109	1614	266
Future Volume (veh/h)	167	53	168	109	129	48	131	813	180	109	1614	266
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.98		0.97	1.00		0.99	1.00		0.99
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	176	56	177	115	136	51	138	856	189	115	1699	280
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	576	285	234	319	385	138	198	2328	1135	345	1976	872
Arrive On Green	0.07	0.15	0.15	0.07	0.15	0.15	0.06	0.66	0.66	0.56	0.56	0.56
Sat Flow, veh/h	3456	1870	1538	1781	2543	908	1781	3554	1562	538	3554	1569
Grp Volume(v), veh/h	176	56	177	115	93	94	138	856	189	115	1699	280
Grp Sat Flow(s),veh/h/ln	1728	1870	1538	1781	1777	1674	1781	1777	1562	538	1777	1569
Q Serve(g_s), s	5.8	3.7	15.4	7.5	6.6	7.1	4.3	15.3	5.3	17.3	56.9	13.5
Cycle Q Clear(g_c), s	5.8	3.7	15.4	7.5	6.6	7.1	4.3	15.3	5.3	18.8	56.9	13.5
Prop In Lane	1.00		1.00	1.00		0.54	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	576	285	234	319	269	254	198	2328	1135	345	1976	872
V/C Ratio(X)	0.31	0.20	0.76	0.36	0.35	0.37	0.70	0.37	0.17	0.33	0.86	0.32
Avail Cap(c_a), veh/h	910	553	455	365	399	375	326	2328	1135	345	1976	872
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	44.7	51.9	56.9	45.3	53.2	53.4	30.4	11.0	6.0	18.4	26.4	16.8
Incr Delay (d2), s/veh	0.3	0.3	4.9	0.3	0.8	0.9	3.3	0.4	0.3	2.6	5.2	1.0
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(50%),veh/ln	2.6	1.8	6.3	3.4	3.0	3.1	2.8	6.1	1.8	2.4	24.8	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.0	52.2	61.8	45.6	53.9	54.3	33.7	11.4	6.3	21.0	31.6	17.8
LnGrp LOS	D	D	E	D	D	D	C	B	A	C	C	B
Approach Vol, veh/h		409			302			1183			2094	
Approach Delay, s/veh		53.3			50.9			13.2			29.2	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s	13.9	84.3	14.6	27.2		98.2	14.5	27.3				
Change Period (Y+Rc), s	4.9	6.5	4.6	6.0		6.5	4.6	6.0				
Max Green Setting (Gmax), s	19.0	44.1	23.5	31.4		68.0	13.5	41.4				
Max Q Clear Time (g_c+I1), s	6.3	58.9	7.8	9.1		17.3	9.5	17.4				
Green Ext Time (p_c), s	0.2	0.0	0.5	1.0		8.5	0.0	0.9				

Intersection Summary			
HCM 6th Ctrl Delay			28.5
HCM 6th LOS			C

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	243	1058	203	118	556	129	92	781	95	244	1161	171
Future Volume (veh/h)	243	1058	203	118	556	129	92	781	95	244	1161	171
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	267	1163	223	130	611	142	101	858	104	268	1276	188
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	351	1213	649	175	1062	647	184	1177	622	319	1324	755
Arrive On Green	0.11	0.34	0.34	0.06	0.30	0.30	0.07	0.33	0.33	0.11	0.37	0.37
Sat Flow, veh/h	1781	3554	1575	1781	3554	1574	1781	3554	1569	1781	3554	1571
Grp Volume(v), veh/h	267	1163	223	130	611	142	101	858	104	268	1276	188
Grp Sat Flow(s),veh/h/ln	1781	1777	1575	1781	1777	1574	1781	1777	1569	1781	1777	1571
Q Serve(g_s), s	14.3	44.9	13.6	7.0	20.4	8.2	5.0	29.8	6.0	13.5	49.2	9.9
Cycle Q Clear(g_c), s	14.3	44.9	13.6	7.0	20.4	8.2	5.0	29.8	6.0	13.5	49.2	9.9
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	351	1213	649	175	1062	647	184	1177	622	319	1324	755
V/C Ratio(X)	0.76	0.96	0.34	0.74	0.58	0.22	0.55	0.73	0.17	0.84	0.96	0.25
Avail Cap(c_a), veh/h	351	1213	649	250	1062	647	212	1177	622	362	1330	758
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	30.5	45.1	28.2	36.8	41.6	26.8	34.2	41.3	27.4	30.5	43.0	21.5
Incr Delay (d2), s/veh	8.4	17.6	1.4	3.4	2.3	0.8	1.0	2.3	0.1	13.1	16.7	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(50%),veh/ln	7.0	22.6	5.5	3.2	9.3	3.3	2.2	13.5	0.0	6.9	24.5	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	62.8	29.7	40.1	43.8	27.5	35.1	43.6	27.5	43.6	59.7	21.7
LnGrp LOS	D	E	C	D	D	C	D	D	C	D	E	C
Approach Vol, veh/h		1653			883			1063			1732	
Approach Delay, s/veh		54.5			40.7			41.2			53.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	53.8	14.4	58.2	19.6	47.8	20.2	52.4
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	15.0	39.4	12.0	52.4	15.0	39.4	19.0	45.4
Max Q Clear Time (g_c+I1), s	9.0	46.9	7.0	51.2	16.3	22.4	15.5	31.8
Green Ext Time (p_c), s	0.1	0.0	0.0	1.0	0.0	4.3	0.1	5.4

Intersection Summary	
HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
4: Burbank Blvd & Hollywood Way

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	154	794	100	179	521	81	65	643	87	195	1264	83
Future Volume (veh/h)	154	794	100	179	521	81	65	643	87	195	1264	83
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		0.99
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	166	854	108	192	560	87	70	691	94	210	1359	89
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	376	1115	141	265	1268	556	147	1008	137	304	1218	80
Arrive On Green	0.08	0.35	0.35	0.08	0.36	0.36	0.05	0.32	0.32	0.09	0.36	0.36
Sat Flow, veh/h	1781	3166	400	1781	3554	1558	1781	3136	426	1781	3383	221
Grp Volume(v), veh/h	166	479	483	192	560	87	70	391	394	210	712	736
Grp Sat Flow(s),veh/h/ln	1781	1777	1790	1781	1777	1558	1781	1777	1785	1781	1777	1827
Q Serve(g_s), s	8.2	33.5	33.5	9.6	16.8	5.3	3.6	26.8	26.9	10.7	50.4	50.4
Cycle Q Clear(g_c), s	8.2	33.5	33.5	9.6	16.8	5.3	3.6	26.8	26.9	10.7	50.4	50.4
Prop In Lane	1.00		0.22	1.00		1.00	1.00		0.24	1.00		0.12
Lane Grp Cap(c), veh/h	376	626	630	265	1268	556	147	571	574	304	640	658
V/C Ratio(X)	0.44	0.77	0.77	0.72	0.44	0.16	0.48	0.68	0.69	0.69	1.11	1.12
Avail Cap(c_a), veh/h	427	626	630	308	1268	556	293	640	643	382	640	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	26.2	40.2	40.2	31.0	34.4	30.7	35.7	41.3	41.3	30.3	44.8	44.8
Incr Delay (d2), s/veh	0.3	8.7	8.6	5.2	1.1	0.6	0.9	2.6	2.6	2.2	70.8	72.7
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(50%),veh/ln	3.6	16.2	16.3	4.5	7.6	2.1	1.6	12.2	12.3	4.8	34.6	35.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	48.9	48.9	36.2	35.5	31.3	36.6	44.0	44.0	32.5	115.6	117.5
LnGrp LOS	C	D	D	D	D	C	D	D	D	C	F	F
Approach Vol, veh/h		1128			839			855			1658	
Approach Delay, s/veh		45.6			35.2			43.4			105.9	
Approach LOS		D			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.2	55.3	12.1	56.4	15.6	55.9	17.5	51.0
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	15.0	34.4	19.0	50.4	15.0	34.4	19.0	50.4
Max Q Clear Time (g_c+I1), s	11.6	35.5	5.6	52.4	10.2	18.8	12.7	28.9
Green Ext Time (p_c), s	0.1	0.0	0.1	0.0	0.1	3.7	0.2	5.1

Intersection Summary	
HCM 6th Ctrl Delay	65.5
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	139	714	140	133	394	90	81	524	109	220	1465	162
Future Volume (veh/h)	139	714	140	133	394	90	81	524	109	220	1465	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.90	1.00		0.90	1.00		0.97	1.00		0.97
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	142	729	143	136	402	92	83	535	111	224	1495	165
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	313	873	349	211	864	345	178	1599	691	472	1694	733
Arrive On Green	0.07	0.25	0.25	0.07	0.24	0.24	0.05	0.45	0.45	0.08	0.48	0.48
Sat Flow, veh/h	1781	3554	1421	1781	3554	1419	1781	3554	1535	1781	3554	1538
Grp Volume(v), veh/h	142	729	143	136	402	92	83	535	111	224	1495	165
Grp Sat Flow(s),veh/h/ln	1781	1777	1421	1781	1777	1419	1781	1777	1535	1781	1777	1538
Q Serve(g_s), s	8.3	27.3	11.8	7.9	13.5	7.3	3.4	13.6	6.0	9.3	53.2	8.8
Cycle Q Clear(g_c), s	8.3	27.3	11.8	7.9	13.5	7.3	3.4	13.6	6.0	9.3	53.2	8.8
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	313	873	349	211	864	345	178	1599	691	472	1694	733
V/C Ratio(X)	0.45	0.83	0.41	0.64	0.47	0.27	0.47	0.33	0.16	0.47	0.88	0.23
Avail Cap(c_a), veh/h	423	1152	461	326	1152	460	284	1599	691	531	1694	733
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	36.2	50.1	44.3	38.9	45.2	42.9	29.8	24.9	22.8	18.1	33.1	21.5
Incr Delay (d2), s/veh	0.4	4.2	0.8	1.2	0.4	0.4	0.7	0.6	0.5	0.3	7.1	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(50%),veh/ln	3.7	12.6	4.3	3.6	6.1	2.6	1.5	6.0	2.3	3.9	24.2	3.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.6	54.3	45.0	40.1	45.6	43.3	30.5	25.5	23.3	18.3	40.2	22.2
LnGrp LOS	D	D	D	D	D	D	C	C	C	B	D	C
Approach Vol, veh/h		1014			630			729			1884	
Approach Delay, s/veh		50.5			44.1			25.7			36.0	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	72.7	15.0	40.0	16.0	69.0	14.6	40.4
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	16.0	38.4	19.0	45.4	16.0	38.4	19.0	45.4
Max Q Clear Time (g_c+I1), s	5.4	55.2	10.3	15.5	11.3	15.6	9.9	29.3
Green Ext Time (p_c), s	0.1	0.0	0.1	3.2	0.1	4.1	0.1	5.2

Intersection Summary	
HCM 6th Ctrl Delay	38.9
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
6: Hollywood Way & Verdugo Ave

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	154	626	178	210	288	70	27	512	65	101	1418	128
Future Volume (veh/h)	154	626	178	210	288	70	27	512	65	101	1418	128
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.97	1.00		0.98
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	166	673	191	226	310	75	29	551	70	109	1525	138
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	442	668	559	230	718	602	112	1179	512	315	1251	544
Arrive On Green	0.07	0.36	0.36	0.10	0.38	0.38	0.03	0.33	0.33	0.05	0.35	0.35
Sat Flow, veh/h	1781	1870	1566	1781	1870	1568	1781	3554	1544	1781	3554	1547
Grp Volume(v), veh/h	166	673	191	226	310	75	29	551	70	109	1525	138
Grp Sat Flow(s),veh/h/ln	1781	1870	1566	1781	1870	1568	1781	1777	1544	1781	1777	1547
Q Serve(g_s), s	8.2	50.0	12.5	13.7	17.1	4.3	1.5	17.2	4.4	5.6	49.3	8.9
Cycle Q Clear(g_c), s	8.2	50.0	12.5	13.7	17.1	4.3	1.5	17.2	4.4	5.6	49.3	8.9
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	442	668	559	230	718	602	112	1179	512	315	1251	544
V/C Ratio(X)	0.38	1.01	0.34	0.98	0.43	0.12	0.26	0.47	0.14	0.35	1.22	0.25
Avail Cap(c_a), veh/h	490	668	559	230	718	602	293	1179	512	461	1251	544
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	25.8	45.0	32.9	44.2	31.9	27.9	36.3	37.0	32.7	29.4	45.4	32.3
Incr Delay (d2), s/veh	0.2	36.7	0.4	54.7	0.4	0.1	0.5	1.3	0.6	0.2	106.2	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(50%),veh/ln	3.5	29.8	4.9	11.5	7.9	1.7	0.7	7.7	1.8	2.5	40.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	81.7	33.3	98.9	32.3	28.0	36.8	38.3	33.3	29.6	151.6	33.4
LnGrp LOS	C	F	C	F	C	C	D	D	C	C	F	C
Approach Vol, veh/h		1030			611			650			1772	
Approach Delay, s/veh		63.7			56.4			37.7			134.9	
Approach LOS		E			E			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	55.3	15.3	59.7	12.6	52.4	19.0	56.0
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	35.0	14.0	50.0	19.0	35.0	14.0	50.0
Max Q Clear Time (g_c+I1), s	3.5	51.3	10.2	19.1	7.6	19.2	15.7	52.0
Green Ext Time (p_c), s	0.0	0.0	0.1	2.2	0.1	3.6	0.0	0.0

Intersection Summary			
HCM 6th Ctrl Delay			89.5
HCM 6th LOS			F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	✣			✣	
Traffic Volume (veh/h)	41	904	818	11	509	70	139	23	10	44	20	19
Future Volume (veh/h)	41	904	818	11	509	70	139	23	10	44	20	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.98	1.00		0.97	1.00		0.95
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	42	932	843	11	525	72	88	100	10	45	21	20
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	627	2477	1250	218	2183	298	190	178	18	57	27	25
Arrive On Green	0.70	0.70	0.70	1.00	1.00	1.00	0.11	0.11	0.11	0.06	0.06	0.06
Sat Flow, veh/h	813	3554	1551	268	3131	428	1781	1668	167	905	423	402
Grp Volume(v), veh/h	42	932	843	11	297	300	88	0	110	86	0	0
Grp Sat Flow(s),veh/h/ln	813	1777	1551	268	1777	1782	1781	0	1835	1730	0	0
Q Serve(g_s), s	2.0	12.9	28.0	0.8	0.0	0.0	5.6	0.0	6.8	5.9	0.0	0.0
Cycle Q Clear(g_c), s	2.0	12.9	28.0	13.7	0.0	0.0	5.6	0.0	6.8	5.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.24	1.00		0.09	0.52		0.23
Lane Grp Cap(c), veh/h	627	2477	1250	218	1238	1242	190	0	196	109	0	0
V/C Ratio(X)	0.07	0.38	0.67	0.05	0.24	0.24	0.46	0.00	0.56	0.79	0.00	0.00
Avail Cap(c_a), veh/h	627	2477	1250	218	1238	1242	683	0	703	173	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.82	0.82	0.82	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.8	7.5	5.1	1.1	0.0	0.0	50.4	0.0	50.9	55.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.4	2.9	0.4	0.4	0.4	1.7	0.0	2.5	12.0	0.0	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(50%),veh/ln	0.4	4.7	14.3	0.0	0.1	0.1	2.6	0.0	3.3	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	7.9	8.0	1.4	0.4	0.4	52.1	0.0	53.4	67.4	0.0	0.0
LnGrp LOS	A	A	A	A	A	A	D	A	D	E	A	A
Approach Vol, veh/h		1817			608			198			86	
Approach Delay, s/veh		7.9			0.4			52.8			67.4	
Approach LOS		A			A			D			E	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		89.6		12.5		89.6		17.8				
Change Period (Y+Rc), s		6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s		46.0		12.0		46.0		46.0				
Max Q Clear Time (g_c+I1), s		30.0		7.9		15.7		8.8				
Green Ext Time (p_c), s		9.7		0.1		4.4		0.9				
Intersection Summary												
HCM 6th Ctrl Delay			11.4									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
8: Pass Ave & Alameda Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	99	840	37	32	383	86	32	113	61	457	1014	149
Future Volume (veh/h)	99	840	37	32	383	86	32	113	61	457	1014	149
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	1.00		0.96	0.98		0.97
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	875	39	33	399	90	33	118	64	476	1056	155
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	260	836	37	139	636	142	240	779	393	751	1506	221
Arrive On Green	0.13	0.48	0.48	0.04	0.22	0.22	0.04	0.35	0.35	0.19	0.49	0.49
Sat Flow, veh/h	1781	3460	154	1781	2867	639	1781	2256	1137	1781	3098	454
Grp Volume(v), veh/h	103	449	465	33	245	244	33	91	91	476	605	606
Grp Sat Flow(s),veh/h/ln	1781	1777	1837	1781	1777	1730	1781	1777	1616	1781	1777	1775
Q Serve(g_s), s	5.2	29.0	29.0	1.7	15.0	15.3	1.4	4.2	4.7	19.8	31.8	32.0
Cycle Q Clear(g_c), s	5.2	29.0	29.0	1.7	15.0	15.3	1.4	4.2	4.7	19.8	31.8	32.0
Prop In Lane	1.00		0.08	1.00		0.37	1.00		0.70	1.00		0.26
Lane Grp Cap(c), veh/h	260	429	444	139	394	383	240	614	558	751	864	863
V/C Ratio(X)	0.40	1.05	1.05	0.24	0.62	0.64	0.14	0.15	0.16	0.63	0.70	0.70
Avail Cap(c_a), veh/h	293	429	444	208	429	418	369	614	558	777	864	863
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.2	31.0	31.0	35.9	42.2	42.3	23.8	27.1	27.2	17.1	24.0	24.1
Incr Delay (d2), s/veh	0.3	54.3	53.7	0.3	2.4	2.8	0.1	0.5	0.6	1.6	4.7	4.8
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(50%),veh/ln	2.1	16.0	16.4	0.7	6.8	6.8	0.6	1.9	1.9	8.2	14.2	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	85.3	84.7	36.2	44.6	45.1	23.9	27.6	27.9	18.7	28.7	28.8
LnGrp LOS	C	F	F	D	D	D	C	C	C	B	C	C
Approach Vol, veh/h		1017			522			215			1687	
Approach Delay, s/veh		79.6			44.3			27.1			25.9	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	35.0	10.3	64.3	12.7	32.6	27.2	47.4
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	29.0	14.0	45.0	10.0	29.0	24.0	35.0
Max Q Clear Time (g_c+I1), s	3.7	31.0	3.4	34.0	7.2	17.3	21.8	6.7
Green Ext Time (p_c), s	0.0	0.0	0.0	6.0	0.0	2.3	0.4	1.1

Intersection Summary			
HCM 6th Ctrl Delay			44.7
HCM 6th LOS			D

9: Olive Ave & Pass Ave

10/27/2021

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑↑	↑↑↱		↰	↱↱
Traffic Volume (vph)	194	1523	1463	37	91	758
Future Volume (vph)	194	1523	1463	37	91	758
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	5085	5059		1770	2787
Flt Permitted	0.10	1.00	1.00		0.95	1.00
Satd. Flow (perm)	184	5085	5059		1770	2787
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	200	1570	1508	38	94	781
RTOR Reduction (vph)	0	0	1	0	0	355
Lane Group Flow (vph)	200	1570	1545	0	94	426
Confl. Peds. (#/hr)	34			34		
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	3 5	2	6		4	4 3
Permitted Phases	2	3				
Actuated Green, G (s)	92.3	92.3	63.7		11.7	32.0
Effective Green, g (s)	92.3	92.3	63.7		11.7	32.0
Actuated g/C Ratio	0.77	0.77	0.53		0.10	0.27
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		2.0	
Lane Grp Cap (vph)	453	4165	2685		172	743
v/s Ratio Prot	0.09	c0.24	c0.31		0.05	c0.15
v/s Ratio Perm	0.25	0.07				
v/c Ratio	0.44	0.38	0.58		0.55	0.57
Uniform Delay, d1	13.2	4.5	19.0		51.6	38.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.0	0.9		1.9	0.7
Delay (s)	13.5	4.5	19.9		53.5	38.8
Level of Service	B	A	B		D	D
Approach Delay (s)		5.5	19.9		40.3	
Approach LOS		A	B		D	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Traffic Volume (veh/h)	77	693	151	165	912	275	61	250	53	199	1378	556
Future Volume (veh/h)	77	693	151	165	912	275	61	250	53	199	1378	556
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.98	1.00		0.98
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	79	707	154	168	931	281	62	255	54	203	1406	567
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	886	190	196	1179	357	117	1490	650	262	1527	667
Arrive On Green	0.08	0.21	0.21	0.11	0.23	0.23	0.07	0.42	0.42	0.08	0.43	0.43
Sat Flow, veh/h	1781	4186	899	1781	5106	1548	1781	3554	1551	3456	3554	1552
Grp Volume(v), veh/h	79	573	288	168	931	281	62	255	54	203	1406	567
Grp Sat Flow(s),veh/h/ln	1781	1702	1681	1781	1702	1548	1781	1777	1551	1728	1777	1552
Q Serve(g_s), s	5.1	19.2	19.6	11.1	20.6	16.0	4.0	5.4	2.5	6.9	44.8	26.8
Cycle Q Clear(g_c), s	5.1	19.2	19.6	11.1	20.6	16.0	4.0	5.4	2.5	6.9	44.8	26.8
Prop In Lane	1.00		0.53	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	720	356	196	1179	357	117	1490	650	262	1527	667
V/C Ratio(X)	0.54	0.80	0.81	0.86	0.79	0.79	0.53	0.17	0.08	0.77	0.92	0.85
Avail Cap(c_a), veh/h	208	851	420	223	1277	387	148	1490	650	432	1527	667
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	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.9	44.8	45.0	52.5	43.4	26.5	54.3	21.8	21.0	54.4	32.3	14.2
Incr Delay (d2), s/veh	1.1	4.5	9.8	26.0	3.5	10.4	1.4	0.2	0.2	1.9	10.6	12.9
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(50%),veh/ln	2.3	8.5	9.1	6.4	9.0	6.9	1.9	2.3	1.0	3.1	21.0	11.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.0	49.4	54.8	78.5	46.9	36.9	55.7	22.0	21.2	56.3	42.9	27.1
LnGrp LOS	D	D	D	E	D	D	E	C	C	E	D	C
Approach Vol, veh/h		940			1380			371			2176	
Approach Delay, s/veh		51.4			48.7			27.5			40.0	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	57.6	15.9	33.7	14.1	56.3	18.2	31.4
Change Period (Y+Rc), s	5.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	43.0	14.0	30.0	15.0	38.0	15.0	30.0
Max Q Clear Time (g_c+I1), s	6.0	46.8	7.1	22.6	8.9	7.4	13.1	21.6
Green Ext Time (p_c), s	0.0	0.0	0.0	5.0	0.2	1.9	0.1	3.6

Intersection Summary			
HCM 6th Ctrl Delay			43.7
HCM 6th LOS			D

11: Hollywood Way & Riverside Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	47	469	136	13	166	85	11	228	6	402	783	434
Future Volume (veh/h)	47	469	136	13	166	85	11	228	6	402	783	434
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	1.00		0.96	1.00		0.99	0.99		0.99
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	494	143	14	175	89	12	240	6	423	824	457
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	282	464	133	121	493	211	287	1868	47	802	2319	1023
Arrive On Green	0.07	0.17	0.17	0.03	0.14	0.14	1.00	1.00	1.00	0.14	1.00	1.00
Sat Flow, veh/h	1781	2700	776	1781	3554	1520	431	3542	88	1781	3554	1568
Grp Volume(v), veh/h	49	324	313	14	175	89	12	120	126	423	824	457
Grp Sat Flow(s),veh/h/ln	1781	1777	1699	1781	1777	1520	431	1777	1853	1781	1777	1568
Q Serve(g_s), s	2.7	20.6	20.6	0.8	5.4	6.4	0.0	0.0	0.0	10.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	20.6	20.6	0.8	5.4	6.4	0.0	0.0	0.0	10.0	0.0	0.0
Prop In Lane	1.00		0.46	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	282	305	292	121	493	211	287	937	977	802	2319	1023
V/C Ratio(X)	0.17	1.06	1.07	0.12	0.35	0.42	0.04	0.13	0.13	0.53	0.36	0.45
Avail Cap(c_a), veh/h	311	305	292	223	622	266	287	937	977	802	2319	1023
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	0.26	0.26	0.26
Uniform Delay (d), s/veh	38.3	49.7	49.7	42.5	46.8	47.3	0.0	0.0	0.0	11.4	0.0	0.0
Incr Delay (d2), s/veh	0.2	68.8	73.6	0.3	0.4	1.3	0.3	0.3	0.3	0.1	0.1	0.4
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(50%),veh/ln	1.2	14.9	14.7	0.4	2.4	2.5	0.0	0.1	0.1	4.9	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	118.5	123.3	42.8	47.2	48.6	0.3	0.3	0.3	11.5	0.1	0.4
LnGrp LOS	D	F	F	D	D	D	A	A	A	B	A	A
Approach Vol, veh/h		686			278			258			1704	
Approach Delay, s/veh		115.0			47.5			0.3			3.0	
Approach LOS		F			D			A			A	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	13.0	22.7	15.0	69.3	9.1	26.6		84.3
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	10.0	21.0	10.0	57.0	11.0	20.0		72.0
Max Q Clear Time (g_c+I1), s	4.7	8.4	12.0	2.0	2.8	22.6		2.0
Green Ext Time (p_c), s	0.0	1.1	0.0	1.7	0.0	0.0		10.1

Intersection Summary			
HCM 6th Ctrl Delay			33.2
HCM 6th LOS			C

HCM 6th Signalized Intersection Summary
12: Hollywood Way & Olive Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱			↰↑↱		↰	↑	↱↱
Traffic Volume (veh/h)	202	1060	81	56	1030	63	15	14	14	77	203	458
Future Volume (veh/h)	202	1060	81	56	1030	63	15	14	14	77	203	458
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	0.99		0.96	0.96		0.96
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	1093	84	58	1062	65	15	14	14	79	209	472
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	425	2854	219	399	2849	174	138	163	183	325	396	777
Arrive On Green	0.07	0.59	0.59	0.06	0.58	0.58	0.21	0.21	0.21	0.35	0.35	0.35
Sat Flow, veh/h	1781	4830	371	1781	4911	300	397	773	864	1333	1870	2683
Grp Volume(v), veh/h	208	770	407	58	736	391	19	0	24	79	209	472
Grp Sat Flow(s),veh/h/ln	1781	1702	1797	1781	1702	1807	528	0	1506	1333	1870	1341
Q Serve(g_s), s	5.5	14.3	14.4	1.4	13.9	13.9	1.3	0.0	1.6	5.3	10.7	17.5
Cycle Q Clear(g_c), s	5.5	14.3	14.4	1.4	13.9	13.9	11.9	0.0	1.6	6.8	10.7	17.5
Prop In Lane	1.00		0.21	1.00		0.17	0.81		0.57	1.00		1.00
Lane Grp Cap(c), veh/h	425	2012	1062	399	1975	1048	166	0	319	325	396	777
V/C Ratio(X)	0.49	0.38	0.38	0.15	0.37	0.37	0.11	0.00	0.08	0.24	0.53	0.61
Avail Cap(c_a), veh/h	588	2012	1062	581	1975	1048	262	0	489	476	608	1081
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	0.92	0.92	0.92
Uniform Delay (d), s/veh	9.5	13.0	13.0	8.7	13.5	13.5	42.3	0.0	37.9	33.4	34.0	30.2
Incr Delay (d2), s/veh	0.9	0.6	1.0	0.2	0.5	1.0	0.3	0.0	0.1	0.4	1.0	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(50%),veh/ln	2.1	5.5	6.0	0.6	5.4	5.8	0.5	0.0	0.6	1.7	4.5	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.3	13.5	14.0	8.8	14.0	14.5	42.6	0.0	38.0	33.7	35.0	30.9
LnGrp LOS	B	B	B	A	B	B	D	A	D	C	D	C
Approach Vol, veh/h		1385			1185			43			760	
Approach Delay, s/veh		13.2			13.9			40.0			32.3	
Approach LOS		B			B			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	14.0	75.6		30.4	12.7	76.9		30.4
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0
Max Green Setting (Gmax), s	20.0	45.0		39.0	20.0	45.0		39.0
Max Q Clear Time (g_c+I1), s	7.5	15.9		19.5	3.4	16.4		13.9
Green Ext Time (p_c), s	0.5	9.0		3.5	0.1	9.5		0.2

Intersection Summary	
HCM 6th Ctrl Delay	18.1
HCM 6th LOS	B

HCM 6th Signalized Intersection Summary
13: Riverside Dr & Olive Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	18	784	335	70	1050	98	158	164	49	90	775	23
Future Volume (veh/h)	18	784	335	70	1050	98	158	164	49	90	775	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	0.98		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	19	808	345	72	1082	101	163	169	51	93	799	0
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	1004	437	257	1160	507	287	1307	380	572	1723	
Arrive On Green	0.05	0.28	0.28	0.09	0.33	0.33	0.48	0.48	0.48	0.48	0.48	0.00
Sat Flow, veh/h	1781	3554	1548	1781	3554	1553	678	2695	784	1141	3554	1585
Grp Volume(v), veh/h	19	808	345	72	1082	101	163	109	111	93	799	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1548	1781	1777	1553	678	1777	1702	1141	1777	1585
Q Serve(g_s), s	0.9	25.3	24.7	3.1	35.4	5.6	25.3	4.1	4.3	5.9	17.9	0.0
Cycle Q Clear(g_c), s	0.9	25.3	24.7	3.1	35.4	5.6	43.2	4.1	4.3	10.2	17.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		1.00
Lane Grp Cap(c), veh/h	159	1004	437	257	1160	507	287	862	825	572	1723	
V/C Ratio(X)	0.12	0.80	0.79	0.28	0.93	0.20	0.57	0.13	0.13	0.16	0.46	
Avail Cap(c_a), veh/h	357	1185	516	377	1185	518	287	862	825	572	1723	
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	31.2	40.0	39.8	26.9	39.1	29.1	34.9	17.0	17.0	19.8	20.5	0.0
Incr Delay (d2), s/veh	0.2	3.6	6.9	0.4	13.0	0.2	7.9	0.3	0.3	0.6	0.9	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(50%),veh/ln	0.4	11.5	10.2	1.3	17.3	2.1	4.8	1.7	1.8	1.7	7.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.5	43.5	46.6	27.4	52.1	29.3	42.8	17.3	17.4	20.4	21.4	0.0
LnGrp LOS	C	D	D	C	D	C	D	B	B	C	C	
Approach Vol, veh/h		1172			1255			383			892	A
Approach Delay, s/veh		44.3			48.9			28.1			21.3	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.9	39.9		64.2	10.6	45.2		64.2
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	19.0	40.0		44.0	19.0	40.0		44.0
Max Q Clear Time (g_c+I1), s	5.1	27.3		19.9	2.9	37.4		45.2
Green Ext Time (p_c), s	0.1	5.6		6.4	0.0	1.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	38.6
HCM 6th LOS	D

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBT	NBR	SBT	SBR
Lane Configurations		↰↰	↑↑		↰↰	↑↑			↑↑	↱	↑↑	↱
Traffic Volume (vph)	13	178	537	22	245	373	14	12	457	345	988	438
Future Volume (vph)	13	178	537	22	245	373	14	12	457	345	988	438
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	8.0		7.5	8.0			6.5	7.5	6.5	3.0
Lane Util. Factor		0.97	0.95		0.97	0.95			0.95	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	0.98	1.00	0.95
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Frt		1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00			1.00	1.00	1.00	1.00
Satd. Flow (prot)		3433	3514		3433	3499			3539	1556	3539	1507
Flt Permitted		0.95	1.00		0.95	1.00			1.00	1.00	1.00	1.00
Satd. Flow (perm)		3433	3514		3433	3499			3539	1556	3539	1507
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	13	184	554	23	253	385	14	12	471	356	1019	452
RTOR Reduction (vph)	0	0	2	0	0	2	0	0	0	0	0	0
Lane Group Flow (vph)	0	197	575	0	253	409	0	0	471	356	1019	461
Confl. Peds. (#/hr)	4	12		14	15		4	12		10		7
Turn Type	Prot	Prot	NA		Prot	NA			NA	custom	NA	custom
Protected Phases	1	1	6		5	2			8		4	
Permitted Phases										5 7 8		3 4
Actuated Green, G (s)		12.2	25.9		13.8	27.5			42.8	69.5	42.2	49.2
Effective Green, g (s)		12.2	25.9		13.8	27.5			42.8	60.0	42.2	49.2
Actuated g/C Ratio		0.11	0.23		0.12	0.25			0.39	0.54	0.38	0.44
Clearance Time (s)		7.5	8.0		7.5	8.0			6.5		6.5	
Vehicle Extension (s)		2.5	4.0		2.5	4.0			3.0		3.0	
Lane Grp Cap (vph)		377	820		427	867			1365	841	1346	668
v/s Ratio Prot		0.06	c0.16		c0.07	0.12			0.13		c0.29	
v/s Ratio Perm										0.23		c0.31
v/c Ratio		0.52	0.70		0.59	0.47			0.35	0.42	0.76	0.69
Uniform Delay, d1		46.6	38.9		45.9	35.5			24.1	15.2	29.9	24.7
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		1.0	2.9		1.8	0.6			0.2	0.3	2.5	3.1
Delay (s)		47.6	41.9		47.7	36.1			24.3	15.4	32.4	27.8
Level of Service		D	D		D	D			C	B	C	C
Approach Delay (s)			43.3			40.5			20.5		31.0	
Approach LOS			D			D			C		C	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	110.9	Sum of lost time (s)	25.0
Intersection Capacity Utilization	84.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR2	SER2
Lane Configurations		↱
Traffic Volume (vph)	9	24
Future Volume (vph)	9	24
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		7.5
Lane Util. Factor		1.00
Frpb, ped/bikes		1.00
Flpb, ped/bikes		1.00
Frt		0.86
Flt Protected		1.00
Satd. Flow (prot)		1611
Flt Permitted		1.00
Satd. Flow (perm)		1611
Peak-hour factor, PHF	0.97	0.97
Adj. Flow (vph)	9	25
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	25
Confl. Peds. (#/hr)	4	7
Turn Type		Over
Protected Phases		1
Permitted Phases		
Actuated Green, G (s)		12.2
Effective Green, g (s)		12.2
Actuated g/C Ratio		0.11
Clearance Time (s)		7.5
Vehicle Extension (s)		2.5
Lane Grp Cap (vph)		177
v/s Ratio Prot		0.02
v/s Ratio Perm		
v/c Ratio		0.14
Uniform Delay, d1		44.6
Progression Factor		1.00
Incremental Delay, d2		0.3
Delay (s)		44.9
Level of Service		D
Approach Delay (s)		
Approach LOS		

Intersection Summary

HCM 6th Signalized Intersection Summary
15: Buena Vista St & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱		↰	↑↱			↰↑↱	
Traffic Volume (veh/h)	23	1313	122	111	624	10	159	118	100	39	172	10
Future Volume (veh/h)	23	1313	122	111	624	10	159	118	100	39	172	10
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	1.00		1.00	0.99		0.99
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	23	1340	124	113	637	10	162	120	102	40	176	10
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	1416	130	205	1966	31	393	291	247	82	243	13
Arrive On Green	0.43	0.43	0.43	0.06	0.55	0.55	0.09	0.31	0.31	0.17	0.17	0.17
Sat Flow, veh/h	782	3288	303	1781	3581	56	1781	932	792	210	1439	76
Grp Volume(v), veh/h	23	722	742	113	316	331	162	0	222	226	0	0
Grp Sat Flow(s),veh/h/ln	782	1777	1814	1781	1777	1860	1781	0	1723	1725	0	0
Q Serve(g_s), s	1.6	35.0	35.5	3.0	8.8	8.8	6.5	0.0	9.2	6.7	0.0	0.0
Cycle Q Clear(g_c), s	1.6	35.0	35.5	3.0	8.8	8.8	6.5	0.0	9.2	11.1	0.0	0.0
Prop In Lane	1.00		0.17	1.00		0.03	1.00		0.46	0.18		0.04
Lane Grp Cap(c), veh/h	417	765	781	205	975	1021	393	0	538	338	0	0
V/C Ratio(X)	0.06	0.94	0.95	0.55	0.32	0.32	0.41	0.00	0.41	0.67	0.00	0.00
Avail Cap(c_a), veh/h	417	765	781	271	975	1021	396	0	737	528	0	0
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	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	24.6	24.7	20.3	11.1	11.1	25.4	0.0	24.4	35.6	0.0	0.0
Incr Delay (d2), s/veh	0.3	21.3	22.1	1.7	0.9	0.8	0.5	0.0	0.5	2.3	0.0	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(50%),veh/ln	0.3	18.3	19.1	1.2	3.5	3.6	2.7	0.0	3.7	4.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.3	45.8	46.8	22.0	12.0	12.0	25.9	0.0	25.0	37.9	0.0	0.0
LnGrp LOS	B	D	D	C	B	B	C	A	C	D	A	A
Approach Vol, veh/h		1487			760			384			226	
Approach Delay, s/veh		45.8			13.5			25.4			37.9	
Approach LOS		D			B			C			D	

Timer - Assigned Phs		2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s		55.9		34.1	10.6	45.3	12.9	21.2				
Change Period (Y+Rc), s		6.5		6.0	5.0	6.5	4.6	6.0				
Max Green Setting (Gmax), s		39.0		38.5	9.0	25.0	8.5	25.4				
Max Q Clear Time (g_c+I1), s		10.8		11.2	5.0	37.5	8.5	13.1				
Green Ext Time (p_c), s		5.2		1.4	0.1	0.0	0.0	1.0				

Intersection Summary			
HCM 6th Ctrl Delay			33.9
HCM 6th LOS			C

HCM 6th Signalized Intersection Summary
16: San Fernando Blvd & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	99	609	184	37	142	172	24	645	18	247	1197	230
Future Volume (veh/h)	99	609	184	37	142	172	24	645	18	247	1197	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	1.00		0.99	1.00		0.99	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	634	192	39	148	179	25	672	19	257	1247	0
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	740	224	153	903	399	49	1258	36	292	1762	
Arrive On Green	0.06	0.28	0.28	0.04	0.25	0.25	0.03	0.36	0.36	0.16	0.50	0.00
Sat Flow, veh/h	1781	2682	811	1781	3554	1570	1781	3528	100	1781	3554	1585
Grp Volume(v), veh/h	103	420	406	39	148	179	25	338	353	257	1247	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1716	1781	1777	1570	1781	1777	1851	1781	1777	1585
Q Serve(g_s), s	5.4	28.7	28.8	2.0	4.2	12.3	1.8	19.4	19.4	18.1	34.9	0.0
Cycle Q Clear(g_c), s	5.4	28.7	28.8	2.0	4.2	12.3	1.8	19.4	19.4	18.1	34.9	0.0
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	390	490	473	153	903	399	49	633	660	292	1762	
V/C Ratio(X)	0.26	0.86	0.86	0.26	0.16	0.45	0.51	0.53	0.53	0.88	0.71	
Avail Cap(c_a), veh/h	567	555	536	368	1110	491	353	1041	1084	556	2498	
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	32.2	43.9	44.0	35.9	37.2	40.2	61.4	32.8	32.8	52.3	25.1	0.0
Incr Delay (d2), s/veh	0.1	12.2	12.7	0.3	0.1	1.1	3.0	1.0	1.0	10.0	1.1	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(50%),veh/ln	2.4	14.2	13.8	0.9	1.8	4.9	0.8	8.5	8.9	8.9	14.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.3	56.1	56.7	36.2	37.3	41.3	64.4	33.8	33.7	62.3	26.2	0.0
LnGrp LOS	C	E	E	D	D	D	E	C	C	E	C	
Approach Vol, veh/h		929			366			716			1504	A
Approach Delay, s/veh		53.7			39.1			34.8			32.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	41.3	8.1	69.5	11.9	38.5	26.0	51.6
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	40.0	25.4	90.0	20.0	40.0	40.0	75.0
Max Q Clear Time (g_c+I1), s	4.0	30.8	3.8	36.9	7.4	14.3	20.1	21.4
Green Ext Time (p_c), s	0.0	4.6	0.0	26.6	0.1	2.3	0.9	7.5

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Notes

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)	76	279	186	185	133	61	161	515	394	127	967	103
Future Volume (veh/h)	76	279	186	185	133	61	161	515	394	127	967	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	78	288	192	191	137	63	166	531	406	131	997	106
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	167	568	248	245	446	194	329	1965	871	180	1778	189
Arrive On Green	0.05	0.16	0.16	0.07	0.19	0.19	0.06	0.55	0.55	0.05	0.55	0.55
Sat Flow, veh/h	1781	3554	1549	3456	2393	1042	1781	3554	1575	3456	3238	344
Grp Volume(v), veh/h	78	288	192	191	100	100	166	531	406	131	547	556
Grp Sat Flow(s),veh/h/ln	1781	1777	1549	1728	1777	1659	1781	1777	1575	1728	1777	1806
Q Serve(g_s), s	5.5	10.4	14.0	7.6	6.8	7.3	5.7	11.0	14.1	5.2	28.1	28.1
Cycle Q Clear(g_c), s	5.5	10.4	14.0	7.6	6.8	7.3	5.7	11.0	14.1	5.2	28.1	28.1
Prop In Lane	1.00		1.00	1.00		0.63	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	167	568	248	245	331	309	329	1965	871	180	975	991
V/C Ratio(X)	0.47	0.51	0.78	0.78	0.30	0.32	0.50	0.27	0.47	0.73	0.56	0.56
Avail Cap(c_a), veh/h	278	863	376	469	470	438	420	1965	871	296	975	991
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	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	53.8	39.8	64.0	49.1	49.3	16.2	16.4	8.0	65.4	20.6	20.6
Incr Delay (d2), s/veh	1.5	0.7	5.5	4.0	0.5	0.6	0.8	0.3	1.7	4.1	2.3	2.3
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(50%),veh/ln	2.6	4.7	5.8	3.5	3.1	3.1	2.4	4.6	5.0	2.4	12.2	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	54.5	45.3	68.0	49.6	49.9	17.0	16.8	9.6	69.5	22.9	22.9
LnGrp LOS	E	D	D	E	D	D	B	B	A	E	C	C
Approach Vol, veh/h		558			391			1103			1234	
Approach Delay, s/veh		51.6			58.7			14.2			27.8	
Approach LOS		D			E			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.9	28.4	12.9	82.9	12.2	32.1	12.3	83.4
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	* 34	15.0	50.0	16.0	37.0	12.0	53.0
Max Q Clear Time (g_c+I1), s	9.6	16.0	7.7	30.1	7.5	9.3	7.2	16.1
Green Ext Time (p_c), s	0.3	2.4	0.2	7.6	0.1	1.2	0.1	7.3

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.

HCM Signalized Intersection Capacity Analysis
18: Vanowen St/Driveway & Buena Vista St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰↑	↱		✥		↰	↑↑			↑↑	↱
Traffic Volume (vph)	330	0	589	0	0	0	167	872	0	0	1010	238
Future Volume (vph)	330	0	589	0	0	0	167	872	0	0	1010	238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7				6.0	6.0			6.0	6.0
Lane Util. Factor	0.95	0.95	1.00				1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98				1.00	1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1681	1553				1770	3539			3539	1552
Flt Permitted	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1681	1553				1770	3539			3539	1552
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	351	0	627	0	0	0	178	928	0	0	1074	253
RTOR Reduction (vph)	0	0	423	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	175	176	204	0	0	0	178	928	0	0	1074	253
Confl. Peds. (#/hr)			3	3			3		4	4		3
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4			3		5	2			6	
Permitted Phases			4	3								6
Actuated Green, G (s)	29.3	29.3	29.3				18.9	103.5			78.6	78.6
Effective Green, g (s)	29.3	29.3	29.3				18.9	103.5			78.6	78.6
Actuated g/C Ratio	0.20	0.20	0.20				0.13	0.72			0.54	0.54
Clearance Time (s)	5.7	5.7	5.7				6.0	6.0			6.0	6.0
Vehicle Extension (s)	3.5	3.5	3.5				2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	340	340	314				231	2534			1925	844
v/s Ratio Prot	0.10	0.10					c0.10	0.26			c0.30	
v/s Ratio Perm			c0.13									0.16
v/c Ratio	0.51	0.52	0.65				0.77	0.37			0.56	0.30
Uniform Delay, d1	51.3	51.3	52.9				60.7	7.9			21.6	18.0
Progression Factor	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2	1.5	1.5	5.0				13.4	0.4			1.2	0.9
Delay (s)	52.8	52.9	57.9				74.1	8.3			22.7	18.9
Level of Service	D	D	E				E	A			C	B
Approach Delay (s)		56.1			0.0			18.9			22.0	
Approach LOS		E			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	144.5	Sum of lost time (s)	22.3
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
19: Victory Blvd & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	151	823	310	98	577	220	213	635	45	417	1189	63
Future Volume (veh/h)	151	823	310	98	577	220	213	635	45	417	1189	63
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	156	848	320	101	595	227	220	655	46	430	1226	65
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	909	399	163	823	361	281	1325	583	514	1576	695
Arrive On Green	0.08	0.26	0.26	0.06	0.23	0.23	0.09	0.37	0.37	0.16	0.44	0.44
Sat Flow, veh/h	1781	3554	1561	1781	3554	1558	1781	3554	1563	1781	3554	1567
Grp Volume(v), veh/h	156	848	320	101	595	227	220	655	46	430	1226	65
Grp Sat Flow(s),veh/h/ln	1781	1777	1561	1781	1777	1558	1781	1777	1563	1781	1777	1567
Q Serve(g_s), s	9.2	32.7	26.9	6.0	21.6	18.3	10.5	19.8	2.7	20.0	41.0	3.4
Cycle Q Clear(g_c), s	9.2	32.7	26.9	6.0	21.6	18.3	10.5	19.8	2.7	20.0	41.0	3.4
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	247	909	399	163	823	361	281	1325	583	514	1576	695
V/C Ratio(X)	0.63	0.93	0.80	0.62	0.72	0.63	0.78	0.49	0.08	0.84	0.78	0.09
Avail Cap(c_a), veh/h	345	924	406	304	924	405	548	1325	583	656	1576	695
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	38.0	50.9	48.8	41.2	49.6	48.4	29.5	33.8	28.4	22.7	33.1	22.6
Incr Delay (d2), s/veh	2.0	15.8	10.9	2.8	2.5	2.6	3.6	1.3	0.3	6.9	3.9	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(50%),veh/ln	4.2	16.5	11.7	2.8	9.9	7.4	4.8	8.9	1.1	9.2	18.4	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	66.7	59.6	44.0	52.1	50.9	33.1	35.1	28.6	29.5	37.0	22.9
LnGrp LOS	D	E	E	D	D	D	C	D	C	C	D	C
Approach Vol, veh/h		1324			923			921			1721	
Approach Delay, s/veh		61.8			50.9			34.3			34.6	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	41.8	17.6	68.1	15.9	38.4	27.5	58.2
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	19.0	36.4	34.0	29.4	19.0	36.4	34.0	29.4
Max Q Clear Time (g_c+I1), s	8.0	34.7	12.5	43.0	11.2	23.6	22.0	21.8
Green Ext Time (p_c), s	0.1	1.2	0.4	0.0	0.2	4.0	0.8	2.7

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	101	556	327	164	473	91	211	797	98	164	1293	99
Future Volume (veh/h)	101	556	327	164	473	91	211	797	98	164	1293	99
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	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	106	585	344	173	498	96	222	839	103	173	1361	104
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	842	373	258	942	417	249	1603	712	345	1509	670
Arrive On Green	0.06	0.24	0.24	0.09	0.27	0.27	0.10	0.45	0.45	0.07	0.42	0.42
Sat Flow, veh/h	1781	3554	1573	1781	3554	1574	1781	3554	1579	1781	3554	1578
Grp Volume(v), veh/h	106	585	344	173	498	96	222	839	103	173	1361	104
Grp Sat Flow(s),veh/h/ln	1781	1777	1573	1781	1777	1574	1781	1777	1579	1781	1777	1578
Q Serve(g_s), s	6.2	21.0	29.9	10.0	16.8	6.7	11.2	23.7	5.4	7.6	50.0	5.7
Cycle Q Clear(g_c), s	6.2	21.0	29.9	10.0	16.8	6.7	11.2	23.7	5.4	7.6	50.0	5.7
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	275	842	373	258	942	417	249	1603	712	345	1509	670
V/C Ratio(X)	0.39	0.69	0.92	0.67	0.53	0.23	0.89	0.52	0.14	0.50	0.90	0.16
Avail Cap(c_a), veh/h	362	873	387	295	942	417	547	1603	712	690	1509	670
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	37.6	48.8	52.1	37.0	44.0	40.3	37.0	27.6	22.6	21.7	37.5	24.8
Incr Delay (d2), s/veh	0.7	2.3	26.9	4.2	0.6	0.3	8.1	1.2	0.4	0.8	9.1	0.5
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(50%),veh/ln	2.8	9.7	14.6	4.7	7.5	2.7	8.3	10.4	2.1	3.3	23.4	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.3	51.1	79.0	41.2	44.5	40.5	45.1	28.8	23.0	22.6	46.6	25.3
LnGrp LOS	D	D	E	D	D	D	D	C	C	C	D	C
Approach Vol, veh/h		1035			767			1164			1638	
Approach Delay, s/veh		59.0			43.3			31.4			42.7	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	39.2	18.6	65.5	12.8	43.1	14.9	69.2
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	15.0	34.4	37.0	32.0	15.0	34.4	37.0	32.0
Max Q Clear Time (g_c+I1), s	12.0	31.9	13.2	52.0	8.2	18.8	9.6	25.7
Green Ext Time (p_c), s	0.1	1.3	0.4	0.0	0.1	3.3	0.3	3.1

Intersection Summary	
HCM 6th Ctrl Delay	43.6
HCM 6th LOS	D

21: Magnolia Blvd & Buena Vista St

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	119	702	149	144	562	229	132	599	90	437	1409	119
Future Volume (veh/h)	119	702	149	144	562	229	132	599	90	437	1409	119
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	138	816	173	167	653	266	153	697	105	508	1638	138
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	865	381	212	909	401	186	1043	461	533	1572	696
Arrive On Green	0.07	0.24	0.24	0.08	0.26	0.26	0.08	0.29	0.29	0.22	0.44	0.44
Sat Flow, veh/h	1781	3554	1566	1781	3554	1566	1781	3554	1569	1781	3554	1574
Grp Volume(v), veh/h	138	816	173	167	653	266	153	697	105	508	1638	138
Grp Sat Flow(s),veh/h/ln	1781	1777	1566	1781	1777	1566	1781	1777	1569	1781	1777	1574
Q Serve(g_s), s	8.0	31.6	13.2	9.7	23.5	21.3	8.3	24.1	7.1	28.6	61.9	7.5
Cycle Q Clear(g_c), s	8.0	31.6	13.2	9.7	23.5	21.3	8.3	24.1	7.1	28.6	61.9	7.5
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	234	865	381	212	909	401	186	1043	461	533	1572	696
V/C Ratio(X)	0.59	0.94	0.45	0.79	0.72	0.66	0.82	0.67	0.23	0.95	1.04	0.20
Avail Cap(c_a), veh/h	296	873	385	253	909	401	522	1043	461	604	1572	696
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	37.7	52.0	45.0	39.0	47.5	46.7	36.5	43.4	37.4	30.9	39.0	23.9
Incr Delay (d2), s/veh	1.8	18.1	0.8	12.1	2.8	4.1	6.7	3.4	1.1	23.6	34.5	0.6
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(50%),veh/ln	3.7	16.2	5.2	5.0	10.8	8.8	4.0	11.1	2.9	15.6	34.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.5	70.1	45.9	51.0	50.3	50.8	43.2	46.8	38.6	54.5	73.5	24.5
LnGrp LOS	D	E	D	D	D	D	D	D	D	D	F	C
Approach Vol, veh/h		1127			1086			955			2284	
Approach Delay, s/veh		62.7			50.5			45.3			66.3	
Approach LOS		E			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.4	40.1	15.6	67.9	14.7	41.8	36.4	47.1
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	15.0	34.4	37.0	32.0	15.0	34.4	37.0	32.0
Max Q Clear Time (g_c+I1), s	11.7	33.6	10.3	63.9	10.0	25.5	30.6	26.1
Green Ext Time (p_c), s	0.1	0.5	0.3	0.0	0.1	3.6	0.8	2.5

Intersection Summary			
HCM 6th Ctrl Delay			58.7
HCM 6th LOS			E

HCM 6th Signalized Intersection Summary
22: Olive Ave & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	184	503	117	181	982	52	105	382	122	108	1123	484
Future Volume (veh/h)	184	503	117	181	982	52	105	382	122	108	1123	484
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.98	0.99		0.98
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	194	529	123	191	1034	55	111	402	128	114	1182	509
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	725	168	284	866	46	187	1593	698	466	1597	699
Arrive On Green	0.10	0.25	0.25	0.09	0.25	0.25	0.05	0.45	0.45	0.05	0.45	0.45
Sat Flow, veh/h	1781	2844	658	1781	3425	182	1781	3554	1556	1781	3554	1556
Grp Volume(v), veh/h	194	329	323	191	536	553	111	402	128	114	1182	509
Grp Sat Flow(s),veh/h/ln	1781	1777	1725	1781	1777	1830	1781	1777	1556	1781	1777	1556
Q Serve(g_s), s	11.1	23.7	24.0	11.0	35.4	35.4	4.7	9.9	6.9	4.8	38.4	37.5
Cycle Q Clear(g_c), s	11.1	23.7	24.0	11.0	35.4	35.4	4.7	9.9	6.9	4.8	38.4	37.5
Prop In Lane	1.00		0.38	1.00		0.10	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	453	440	284	449	463	187	1593	698	466	1597	699
V/C Ratio(X)	0.87	0.73	0.73	0.67	1.19	1.19	0.59	0.25	0.18	0.24	0.74	0.73
Avail Cap(c_a), veh/h	395	551	535	358	449	463	217	1593	698	494	1597	699
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	37.8	47.7	47.8	36.1	52.3	52.3	27.4	24.0	23.2	19.3	31.8	31.5
Incr Delay (d2), s/veh	7.8	3.8	4.1	2.8	107.3	106.9	2.5	0.4	0.6	0.2	3.1	6.5
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(50%),veh/ln	5.4	11.0	10.9	5.0	29.1	29.9	2.1	4.3	2.7	2.1	17.1	15.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.5	51.5	51.9	38.9	159.6	159.2	30.0	24.4	23.8	19.5	34.9	38.1
LnGrp LOS	D	D	D	D	F	F	C	C	C	B	C	D
Approach Vol, veh/h		846			1280			641			1805	
Approach Delay, s/veh		50.3			141.4			25.2			34.8	
Approach LOS		D			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.8	41.7	11.6	68.9	18.1	41.4	11.8	68.8
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	43.4	9.0	47.0	27.0	35.4	9.0	47.0
Max Q Clear Time (g_c+I1), s	13.0	26.0	6.7	40.4	13.1	37.4	6.8	11.9
Green Ext Time (p_c), s	0.2	3.9	0.0	4.8	0.3	0.0	0.0	3.4

Intersection Summary	
HCM 6th Ctrl Delay	66.2
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
23: Alameda Ave & Buena Vista St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	210	638	128	243	611	122	221	313	227	281	712	195
Future Volume (veh/h)	210	638	128	243	611	122	221	313	227	281	712	195
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.97	1.00		0.95	0.99		0.95
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	233	709	142	270	679	136	246	348	252	312	791	217
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	283	851	366	318	913	393	359	1360	574	523	1439	609
Arrive On Green	0.08	0.24	0.24	0.09	0.26	0.26	0.10	0.38	0.38	0.12	0.40	0.40
Sat Flow, veh/h	3456	3554	1527	3456	3554	1531	1781	3554	1499	1781	3554	1504
Grp Volume(v), veh/h	233	709	142	270	679	136	246	348	252	312	791	217
Grp Sat Flow(s),veh/h/ln	1728	1777	1527	1728	1777	1531	1781	1777	1499	1781	1777	1504
Q Serve(g_s), s	9.3	26.5	8.4	10.8	24.6	10.1	11.6	9.4	12.4	14.7	23.9	14.0
Cycle Q Clear(g_c), s	9.3	26.5	8.4	10.8	24.6	10.1	11.6	9.4	12.4	14.7	23.9	14.0
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	283	851	366	318	913	393	359	1360	574	523	1439	609
V/C Ratio(X)	0.82	0.83	0.39	0.85	0.74	0.35	0.68	0.26	0.44	0.60	0.55	0.36
Avail Cap(c_a), veh/h	346	1142	491	346	1142	492	437	1360	574	574	1439	609
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	63.3	50.6	26.2	62.6	47.8	42.4	24.5	29.6	16.3	21.3	31.9	29.0
Incr Delay (d2), s/veh	11.8	4.1	0.7	16.3	2.0	0.5	2.8	0.5	2.4	1.2	1.5	1.6
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(50%),veh/ln	4.6	12.3	3.2	5.5	11.2	3.9	5.2	4.2	4.7	6.3	10.6	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.0	54.6	26.9	78.9	49.8	42.9	27.4	30.0	18.7	22.5	33.4	30.6
LnGrp LOS	E	D	C	E	D	D	C	C	B	C	C	C
Approach Vol, veh/h		1084			1085			846			1320	
Approach Delay, s/veh		55.4			56.2			25.9			30.4	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.9	39.5	18.9	62.7	16.5	42.0	22.0	59.6
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	14.0	* 45	20.0	39.0	14.0	45.0	21.0	38.0
Max Q Clear Time (g_c+I1), s	12.8	28.5	13.6	25.9	11.3	26.6	16.7	14.4
Green Ext Time (p_c), s	0.1	5.0	0.3	5.2	0.2	5.0	0.3	3.3

Intersection Summary	
HCM 6th Ctrl Delay	42.2
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
24: Riverside Dr & SR 134 Ramps/Buena Vista St & SR 134 WB On Ramp

10/27/2021

Movement	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL
Lane Configurations	↰	↰	↰↑	↱	↰↰	↑↱		↰	↑↱		↱	↰
Traffic Volume (vph)	22	177	197	84	388	615	314	280	295	49	278	92
Future Volume (vph)	22	177	197	84	388	615	314	280	295	49	278	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.91		0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	0.99		1.00	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.95		1.00	0.95		0.85	1.00
Flt Protected	0.95	0.95	0.99	1.00	0.95	1.00		0.95	1.00		1.00	0.95
Satd. Flow (prot)	1770	1681	1746	1544	1770	3341		1770	3230		1441	1770
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00		0.95	1.00		1.00	0.95
Satd. Flow (perm)	1770	1770	1770	1544	1770	3341		1770	3230		1441	1770
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	23	186	207	88	408	647	331	295	311	52	293	97
RTOR Reduction (vph)	0	0	0	58	0	29	0	0	0	0	0	0
Lane Group Flow (vph)	23	108	285	30	408	949	0	295	454	0	202	97
Confl. Peds. (#/hr)				6			2	2				6
Turn Type	Prot	Perm	NA	Perm	Split	NA		Split	NA		Perm	Prot
Protected Phases	1		6		8	8		7	7			5
Permitted Phases		6		6							7	
Actuated Green, G (s)	5.6	43.8	43.8	43.8	50.7	50.7		35.7	35.7		35.7	14.6
Effective Green, g (s)	5.6	43.8	43.8	43.8	50.7	50.7		35.7	35.7		35.7	14.6
Actuated g/C Ratio	0.03	0.26	0.26	0.26	0.30	0.30		0.21	0.21		0.21	0.09
Clearance Time (s)	4.6	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	4.6
Vehicle Extension (s)	2.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	2.5
Lane Grp Cap (vph)	58	459	459	400	531	1002		374	682		304	153
v/s Ratio Prot	0.01				0.23	c0.28		c0.17	0.14			c0.05
v/s Ratio Perm		0.06	0.16	0.02							0.14	
v/c Ratio	0.40	0.24	0.62	0.08	0.77	0.95		0.79	0.67		0.66	0.63
Uniform Delay, d1	80.0	49.3	55.2	47.3	53.8	57.8		63.0	61.1		61.1	74.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	3.2	0.3	2.7	0.1	6.8	17.1		10.8	2.6		5.6	7.3
Delay (s)	83.2	49.7	58.0	47.4	60.6	74.9		73.9	63.7		66.7	81.9
Level of Service	F	D	E	D	E	E		E	E		E	F
Approach Delay (s)			55.5			70.6			67.5			72.5
Approach LOS			E			E			E			E

Intersection Summary			
HCM 2000 Control Delay	68.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	168.9	Sum of lost time (s)	24.1
Intersection Capacity Utilization	105.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
24: Riverside Dr & SR 134 Ramps/Buena Vista St & SR 134 WB On Ramp

10/27/2021

Movement	NER	NER2
Lane Configurations	↱↱	
Traffic Volume (vph)	813	2
Future Volume (vph)	813	2
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)	6.5	
Lane Util. Factor	0.88	
Frpb, ped/bikes	1.00	
Flpb, ped/bikes	1.00	
Frt	0.85	
Flt Protected	1.00	
Satd. Flow (prot)	2787	
Flt Permitted	1.00	
Satd. Flow (perm)	2787	
Peak-hour factor, PHF	0.95	0.95
Adj. Flow (vph)	856	2
RTOR Reduction (vph)	54	0
Lane Group Flow (vph)	804	0
Confl. Peds. (#/hr)	2	
Turn Type	Prot	
Protected Phases	2	
Permitted Phases		
Actuated Green, G (s)	52.8	
Effective Green, g (s)	52.8	
Actuated g/C Ratio	0.31	
Clearance Time (s)	6.5	
Vehicle Extension (s)	3.5	
Lane Grp Cap (vph)	871	
v/s Ratio Prot	c0.29	
v/s Ratio Perm		
v/c Ratio	0.92	
Uniform Delay, d1	56.1	
Progression Factor	1.00	
Incremental Delay, d2	15.3	
Delay (s)	71.4	
Level of Service	E	
Approach Delay (s)		
Approach LOS		
Intersection Summary		

HCM Signalized Intersection Capacity Analysis
25: Burbank Blvd & Victory Blvd

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↰↑	↱
Traffic Volume (vph)	42	1457	325	393	1300	503	242	242	116	659	546	54
Future Volume (vph)	42	1457	325	393	1300	503	242	242	116	659	546	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.86	0.86	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)	3433	5085	1561	3433	5085	1570	3433	3539	1583	3044	3185	1557
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)	3433	5085	1561	3433	5085	1570	3433	3539	1583	3044	3185	1557
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	45	1567	349	423	1398	541	260	260	125	709	587	58
RTOR Reduction (vph)	0	0	22	0	0	118	0	0	34	0	0	43
Lane Group Flow (vph)	45	1567	327	423	1398	423	260	260	91	631	665	15
Confl. Peds. (#/hr)	1		4	4		1	3					3
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	1	6	7	5	2	3	7	7	5	3	3	
Permitted Phases			6			2			7			3
Actuated Green, G (s)	6.1	65.3	88.7	26.6	85.8	134.0	23.4	23.4	50.0	48.2	48.2	48.2
Effective Green, g (s)	6.1	65.3	88.7	26.6	85.8	134.0	23.4	23.4	50.0	48.2	48.2	48.2
Actuated g/C Ratio	0.03	0.35	0.48	0.14	0.46	0.72	0.13	0.13	0.27	0.26	0.26	0.26
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	112	1780	742	489	2339	1178	430	444	424	786	823	402
v/s Ratio Prot	0.01	c0.31	0.06	c0.12	0.27	0.09	c0.08	0.07	0.03	0.21	c0.21	
v/s Ratio Perm			0.15			0.18			0.03			0.01
v/c Ratio	0.40	0.88	0.44	0.87	0.60	0.36	0.60	0.59	0.21	0.80	0.81	0.04
Uniform Delay, d1	88.4	56.9	32.4	78.2	37.5	10.0	77.2	77.0	53.0	64.7	64.8	51.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	5.5	0.4	14.3	0.4	0.2	2.4	2.0	0.1	5.9	5.9	0.0
Delay (s)	90.1	62.4	32.9	92.5	37.9	10.1	79.6	78.9	53.1	70.6	70.7	51.8
Level of Service	F	E	C	F	D	B	E	E	D	E	E	D
Approach Delay (s)		57.8			41.3			74.2			69.9	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	55.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	186.5	Sum of lost time (s)	23.0
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
26: Victory Blvd/Victory Pl & Magnolia Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	125	558	222	193	579	121	151	493	78	216	1008	140
Future Volume (veh/h)	125	558	222	193	579	121	151	493	78	216	1008	140
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	137	613	244	212	636	133	166	542	86	237	1108	154
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	537	213	239	884	390	264	1554	689	477	1632	724
Arrive On Green	0.07	0.22	0.22	0.11	0.25	0.25	0.07	0.44	0.44	0.09	0.46	0.46
Sat Flow, veh/h	1781	2472	983	1781	3554	1568	1781	3554	1575	1781	3554	1576
Grp Volume(v), veh/h	137	440	417	212	636	133	166	542	86	237	1108	154
Grp Sat Flow(s),veh/h/ln	1781	1777	1679	1781	1777	1568	1781	1777	1575	1781	1777	1576
Q Serve(g_s), s	8.3	30.4	30.4	12.6	22.9	9.7	7.1	14.2	4.5	10.1	34.3	8.2
Cycle Q Clear(g_c), s	8.3	30.4	30.4	12.6	22.9	9.7	7.1	14.2	4.5	10.1	34.3	8.2
Prop In Lane	1.00		0.59	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	386	365	239	884	390	264	1554	689	477	1632	724
V/C Ratio(X)	0.56	1.14	1.14	0.89	0.72	0.34	0.63	0.35	0.12	0.50	0.68	0.21
Avail Cap(c_a), veh/h	429	386	365	370	884	390	515	1554	689	688	1632	724
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	39.6	54.8	54.8	38.8	48.1	43.2	24.6	26.2	23.5	19.0	29.7	22.7
Incr Delay (d2), s/veh	0.8	90.2	92.0	10.4	2.9	0.5	0.9	0.6	0.4	0.3	2.3	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(50%),veh/ln	3.7	23.2	22.1	6.2	10.5	3.9	3.1	6.2	1.8	4.2	15.1	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.4	145.0	146.8	49.2	51.0	43.7	25.5	26.8	23.8	19.3	32.0	23.4
LnGrp LOS	D	F	F	D	D	D	C	C	C	B	C	C
Approach Vol, veh/h		994			981			794			1499	
Approach Delay, s/veh		131.3			49.6			26.2			29.1	
Approach LOS		F			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	70.3	19.4	36.4	17.0	67.2	15.0	40.8
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	29.0	34.4	25.0	30.4	29.0	34.4	25.0	30.4
Max Q Clear Time (g_c+I1), s	9.1	36.3	14.6	32.4	12.1	16.2	10.3	24.9
Green Ext Time (p_c), s	0.2	0.0	0.2	0.0	0.3	3.8	0.1	2.2

Intersection Summary	
HCM 6th Ctrl Delay	57.1
HCM 6th LOS	E

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	164	463	56	139	911	74	122	502	94	180	946	292
Future Volume (veh/h)	164	463	56	139	911	74	122	502	94	180	946	292
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	0.99		0.97
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	173	487	59	146	959	78	128	528	99	189	996	307
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	1515	183	480	1661	729	175	781	336	288	873	378
Arrive On Green	0.07	0.48	0.48	0.06	0.47	0.47	0.07	0.22	0.22	0.10	0.25	0.25
Sat Flow, veh/h	1781	3186	384	1781	3554	1560	1781	3554	1531	1781	3554	1537
Grp Volume(v), veh/h	173	271	275	146	959	78	128	528	99	189	996	307
Grp Sat Flow(s),veh/h/ln	1781	1777	1794	1781	1777	1560	1781	1777	1531	1781	1777	1537
Q Serve(g_s), s	7.0	13.2	13.3	5.9	27.6	3.9	7.7	19.1	7.6	11.3	34.4	26.4
Cycle Q Clear(g_c), s	7.0	13.2	13.3	5.9	27.6	3.9	7.7	19.1	7.6	11.3	34.4	26.4
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	316	845	853	480	1661	729	175	781	336	288	873	378
V/C Ratio(X)	0.55	0.32	0.32	0.30	0.58	0.11	0.73	0.68	0.29	0.66	1.14	0.81
Avail Cap(c_a), veh/h	568	845	853	747	1661	729	293	873	376	360	873	378
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	20.9	22.7	22.7	17.8	27.2	20.9	41.5	50.1	45.6	37.8	52.8	49.8
Incr Delay (d2), s/veh	0.6	1.0	1.0	0.1	1.5	0.3	2.2	1.8	0.5	1.5	77.0	12.7
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(50%),veh/ln	3.0	5.8	5.9	2.5	12.0	1.5	3.5	8.7	2.9	5.1	24.6	11.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	23.7	23.7	18.0	28.7	21.2	43.7	51.9	46.0	39.3	129.8	62.5
LnGrp LOS	C	C	C	B	C	C	D	D	D	D	F	E
Approach Vol, veh/h		719			1183			755			1492	
Approach Delay, s/veh		23.2			26.9			49.7			104.5	
Approach LOS		C			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	72.6	14.3	40.4	13.8	71.4	18.0	36.8
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	29.0	36.4	19.0	34.4	29.0	36.4	19.0	34.4
Max Q Clear Time (g_c+I1), s	7.9	15.3	9.7	36.4	9.0	29.6	13.3	21.1
Green Ext Time (p_c), s	0.2	3.3	0.1	0.0	0.2	3.7	0.1	3.2

Intersection Summary	
HCM 6th Ctrl Delay	58.3
HCM 6th LOS	E

28: Alameda Ave & Victory Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰↰	↑↱	
Traffic Volume (veh/h)	51	603	100	109	1170	245	90	233	69	340	566	71
Future Volume (veh/h)	51	603	100	109	1170	245	90	233	69	340	566	71
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.98		0.95	0.97		0.97
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	52	615	102	111	1194	250	92	238	70	347	578	72
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	1907	846	449	1925	854	164	456	130	623	959	119
Arrive On Green	0.04	0.54	0.54	0.04	0.54	0.54	0.17	0.17	0.17	0.10	0.30	0.30
Sat Flow, veh/h	1781	3554	1576	1781	3554	1576	767	2694	768	3456	3169	394
Grp Volume(v), veh/h	52	615	102	111	1194	250	92	154	154	347	323	327
Grp Sat Flow(s),veh/h/ln	1781	1777	1576	1781	1777	1576	767	1777	1685	1728	1777	1786
Q Serve(g_s), s	1.8	13.6	4.5	3.9	32.5	12.1	16.3	11.1	11.7	11.2	21.7	21.9
Cycle Q Clear(g_c), s	1.8	13.6	4.5	3.9	32.5	12.1	19.5	11.1	11.7	11.2	21.7	21.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.46	1.00		0.22
Lane Grp Cap(c), veh/h	232	1907	846	449	1925	854	164	301	285	623	538	541
V/C Ratio(X)	0.22	0.32	0.12	0.25	0.62	0.29	0.56	0.51	0.54	0.56	0.60	0.60
Avail Cap(c_a), veh/h	293	1907	846	501	1925	854	201	386	366	843	736	740
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	17.3	18.2	16.1	14.0	22.2	17.5	57.9	52.9	53.2	40.7	41.6	41.7
Incr Delay (d2), s/veh	0.2	0.4	0.3	0.1	1.5	0.9	3.0	1.4	1.6	0.8	1.1	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(50%),veh/ln	0.7	5.7	1.7	1.6	13.8	4.6	3.3	5.1	5.1	4.9	9.7	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	18.6	16.4	14.1	23.7	18.4	60.9	54.3	54.7	41.5	42.7	42.8
LnGrp LOS	B	B	B	B	C	B	E	D	D	D	D	D
Approach Vol, veh/h		769			1555			400			997	
Approach Delay, s/veh		18.3			22.1			56.0			42.3	
Approach LOS		B			C			E			D	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	18.7	29.7	10.5	81.1		48.4	9.8	81.8
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0		6.0	4.6	6.0
Max Green Setting (Gmax), s	23.0	30.4	10.0	55.4		58.0	10.0	55.4
Max Q Clear Time (g_c+I1), s	13.2	21.5	5.9	15.6		23.9	3.8	34.5
Green Ext Time (p_c), s	0.9	1.6	0.0	5.2		4.5	0.0	10.2

Intersection Summary			
HCM 6th Ctrl Delay			30.4
HCM 6th LOS			C

HCM 6th Signalized Intersection Summary
29: Burbank Blvd & San Fernando Blvd

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑	↱↱
Traffic Volume (veh/h)	506	481	292	20	334	74	69	103	5	52	208	656
Future Volume (veh/h)	506	481	292	20	334	74	69	103	5	52	208	656
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		1.00	1.00		0.98	1.00		0.98	1.00		0.97
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	588	559	0	23	388	86	80	120	6	60	242	763
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	693	960		89	642	279	423	1213	60	97	509	733
Arrive On Green	0.13	0.27	0.00	0.05	0.18	0.18	0.12	0.35	0.35	0.05	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	1781	3554	1548	3456	3442	171	1781	1870	2692
Grp Volume(v), veh/h	588	559	0	23	388	86	80	62	64	60	242	763
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1548	1728	1777	1836	1781	1870	1346
Q Serve(g_s), s	7.4	11.1	0.0	1.0	8.2	3.9	1.7	1.9	1.9	2.7	8.8	16.6
Cycle Q Clear(g_c), s	7.4	11.1	0.0	1.0	8.2	3.9	1.7	1.9	1.9	2.7	8.8	16.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	693	960		89	642	279	423	626	647	97	509	733
V/C Ratio(X)	0.85	0.58		0.26	0.60	0.31	0.19	0.10	0.10	0.62	0.48	1.04
Avail Cap(c_a), veh/h	1099	1305		654	1305	568	2538	1305	1349	436	687	989
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	25.8	0.0	37.4	30.8	29.0	32.2	17.7	17.8	37.8	24.8	16.6
Incr Delay (d2), s/veh	2.1	0.7	0.0	1.8	1.1	0.7	0.5	0.1	0.1	2.4	0.5	37.3
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(50%),veh/ln	5.6	4.6	0.0	0.5	3.5	1.5	0.7	0.8	0.8	1.2	3.9	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	26.5	0.0	39.2	31.9	29.8	32.7	17.8	17.8	40.1	25.4	53.8
LnGrp LOS	C	C		D	C	C	C	B	B	D	C	F
Approach Vol, veh/h		1147	A		497			206			1065	
Approach Delay, s/veh		30.6			31.9			23.6			46.6	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	35.1	16.4	20.7	16.3	28.3	9.1	28.1
Change Period (Y+Rc), s	5.0	6.3	6.0	* 6	6.3	* 6	5.0	6.0
Max Green Setting (Gmax), s	20.0	60.0	20.0	* 30	60.0	* 30	30.0	30.0
Max Q Clear Time (g_c+I1), s	4.7	3.9	9.4	10.2	3.7	18.6	3.0	13.1
Green Ext Time (p_c), s	0.0	0.9	1.0	3.3	0.6	3.2	0.0	4.1

Intersection Summary			
HCM 6th Ctrl Delay			36.2
HCM 6th LOS			D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
30: Magnolia Blvd & First St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	108	564	177	49	748	22	170	132	43	33	326	235
Future Volume (veh/h)	108	564	177	49	748	22	170	132	43	33	326	235
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		0.99	0.99		0.99
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	126	656	206	57	870	26	198	153	50	38	379	273
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	339	1732	731	375	1612	777	305	890	395	375	722	408
Arrive On Green	0.06	0.46	0.46	0.05	0.45	0.45	0.09	0.25	0.25	0.04	0.20	0.20
Sat Flow, veh/h	1781	3741	1580	1781	3554	1580	1781	3554	1576	1781	3554	1573
Grp Volume(v), veh/h	126	656	206	57	870	26	198	153	50	38	379	273
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1781	1777	1580	1781	1777	1576	1781	1777	1573
Q Serve(g_s), s	3.9	12.0	8.5	1.7	18.6	0.9	9.0	3.5	2.6	1.7	10.0	16.3
Cycle Q Clear(g_c), s	3.9	12.0	8.5	1.7	18.6	0.9	9.0	3.5	2.6	1.7	10.0	16.3
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	339	1732	731	375	1612	777	305	890	395	375	722	408
V/C Ratio(X)	0.37	0.38	0.28	0.15	0.54	0.03	0.65	0.17	0.13	0.10	0.53	0.67
Avail Cap(c_a), veh/h	393	1732	731	445	1612	777	305	1097	486	459	1097	574
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	15.7	18.4	17.4	14.2	20.8	13.8	29.3	30.8	30.5	30.9	37.3	34.9
Incr Delay (d2), s/veh	0.3	0.6	1.0	0.1	1.3	0.1	3.8	0.1	0.1	0.0	0.6	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(50%),veh/ln	1.6	5.2	3.2	0.7	7.8	0.3	4.2	1.5	1.0	0.7	4.4	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	19.0	18.4	14.3	22.1	13.9	33.1	30.9	30.6	30.9	37.9	36.8
LnGrp LOS	B	B	B	B	C	B	C	C	C	C	D	D
Approach Vol, veh/h		988			953			401			690	
Approach Delay, s/veh		18.5			21.4			31.9			37.1	
Approach LOS		B			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.5	54.6	8.6	32.3	10.4	53.6	13.6	27.3
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	9.0	33.4	9.0	32.4	9.0	33.4	9.0	32.4
Max Q Clear Time (g_c+I1), s	3.7	14.0	3.7	5.5	5.9	20.6	11.0	18.3
Green Ext Time (p_c), s	0.0	5.2	0.0	1.1	0.0	5.0	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	25.4
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
31: Olive Ave & First St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	98	377	105	37	683	94	264	174	48	52	177	110
Future Volume (veh/h)	98	377	105	37	683	94	264	174	48	52	177	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.98		0.98	0.97		0.96
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	105	405	113	40	734	101	284	187	52	56	190	118
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	360	1271	350	459	1601	697	422	694	187	334	604	342
Arrive On Green	0.05	0.46	0.46	0.04	0.45	0.45	0.13	0.25	0.25	0.04	0.17	0.17
Sat Flow, veh/h	1781	2736	754	1781	3554	1548	1781	2750	741	1781	3554	1526
Grp Volume(v), veh/h	105	261	257	40	734	101	284	119	120	56	190	118
Grp Sat Flow(s),veh/h/ln	1781	1777	1714	1781	1777	1548	1781	1777	1715	1781	1777	1526
Q Serve(g_s), s	3.4	10.2	10.4	1.3	15.7	4.2	14.0	5.9	6.2	2.8	5.2	7.2
Cycle Q Clear(g_c), s	3.4	10.2	10.4	1.3	15.7	4.2	14.0	5.9	6.2	2.8	5.2	7.2
Prop In Lane	1.00		0.44	1.00		1.00	1.00		0.43	1.00		1.00
Lane Grp Cap(c), veh/h	360	825	796	459	1601	697	422	449	433	334	604	342
V/C Ratio(X)	0.29	0.32	0.32	0.09	0.46	0.14	0.67	0.26	0.28	0.17	0.31	0.34
Avail Cap(c_a), veh/h	445	825	796	568	1601	697	422	565	546	400	969	499
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	15.8	18.5	18.6	15.1	20.9	17.8	31.1	32.9	33.1	35.0	40.0	36.1
Incr Delay (d2), s/veh	0.3	1.0	1.1	0.0	0.9	0.4	3.9	0.4	0.4	0.1	0.4	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(50%),veh/ln	1.4	4.4	4.3	0.5	6.6	1.6	6.5	2.6	2.6	1.2	2.3	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.1	19.5	19.6	15.1	21.9	18.2	35.0	33.3	33.5	35.1	40.4	36.8
LnGrp LOS	B	B	B	B	C	B	D	C	C	D	D	D
Approach Vol, veh/h		623			875			523			364	
Approach Delay, s/veh		19.0			21.1			34.3			38.4	
Approach LOS		B			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.9	33.8	10.8	55.6	19.0	24.7	9.2	57.1				
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0				
Max Green Setting (Gmax), s	9.0	35.0	11.0	33.0	14.0	30.0	11.0	33.0				
Max Q Clear Time (g_c+I1), s	4.8	8.2	5.4	17.7	16.0	9.2	3.3	12.4				
Green Ext Time (p_c), s	0.0	1.7	0.1	5.6	0.0	1.8	0.0	3.8				
Intersection Summary												
HCM 6th Ctrl Delay			26.1									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
32: Alameda Ave & San Fernando Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↱		↰	↑↱		↰↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	171	433	151	80	563	78	291	249	98	153	474	284
Future Volume (veh/h)	171	433	151	80	563	78	291	249	98	153	474	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	0.99		0.96	0.99		0.96
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	176	446	156	82	580	80	300	257	101	158	489	293
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	1205	1351	468	103	708	97	460	433	165	280	611	262
Arrive On Green	0.35	0.53	0.53	0.06	0.23	0.23	0.09	0.17	0.17	0.09	0.17	0.17
Sat Flow, veh/h	3456	2573	891	1781	3116	428	3456	2489	946	1781	3554	1527
Grp Volume(v), veh/h	176	307	295	82	330	330	300	181	177	158	489	293
Grp Sat Flow(s),veh/h/ln	1728	1777	1687	1781	1777	1767	1728	1777	1658	1781	1777	1527
Q Serve(g_s), s	4.9	13.9	14.1	6.4	24.7	24.8	9.9	13.1	13.8	10.1	18.5	11.4
Cycle Q Clear(g_c), s	4.9	13.9	14.1	6.4	24.7	24.8	9.9	13.1	13.8	10.1	18.5	11.4
Prop In Lane	1.00		0.53	1.00		0.24	1.00		0.57	1.00		1.00
Lane Grp Cap(c), veh/h	1205	933	886	103	404	402	460	309	289	280	611	262
V/C Ratio(X)	0.15	0.33	0.33	0.79	0.82	0.82	0.65	0.59	0.61	0.56	0.80	1.12
Avail Cap(c_a), veh/h	1205	933	886	280	609	606	624	470	438	280	762	327
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	31.3	19.1	19.1	65.1	51.3	51.4	43.6	53.2	53.4	43.1	55.7	13.1
Incr Delay (d2), s/veh	0.0	0.9	1.0	9.8	16.6	17.0	1.2	2.1	2.5	2.2	5.3	86.4
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(50%),veh/ln	2.1	6.0	5.8	3.2	12.9	12.9	4.3	6.1	6.0	4.7	8.8	10.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	20.0	20.2	74.9	67.9	68.4	44.7	55.3	56.0	45.3	61.0	99.5
LnGrp LOS	C	C	C	E	E	E	D	E	E	D	E	F
Approach Vol, veh/h		778			742			658			940	
Approach Delay, s/veh		22.6			68.9			50.7			70.3	
Approach LOS		C			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	30.1	54.8	37.8	17.0	30.4	13.1	79.5
Change Period (Y+Rc), s	5.0	6.0	6.0	* 6	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	30.0	21.0	* 48	12.0	37.0	22.0	47.0
Max Q Clear Time (g_c+I1), s	11.9	20.5	6.9	26.8	12.1	15.8	8.4	16.1
Green Ext Time (p_c), s	0.5	3.6	0.3	5.0	0.0	2.5	0.1	5.0

Intersection Summary	
HCM 6th Ctrl Delay	53.9
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
33: Magnolia Blvd & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	96	155	159	110	385	66	190	759	21	59	1563	233
Future Volume (veh/h)	96	155	159	110	385	66	190	759	21	59	1563	233
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.99	1.00		0.98
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	99	160	164	113	397	68	196	782	22	61	1611	240
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	208	474	394	272	767	130	231	1801	51	424	1483	216
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.08	0.51	0.51	0.05	0.48	0.48
Sat Flow, veh/h	920	1870	1555	1045	3029	514	1781	3529	99	1781	3105	452
Grp Volume(v), veh/h	99	160	164	113	231	234	196	394	410	61	906	945
Grp Sat Flow(s),veh/h/ln	920	1870	1555	1045	1777	1766	1781	1777	1851	1781	1777	1780
Q Serve(g_s), s	9.3	6.3	7.9	8.9	10.1	10.2	5.6	12.5	12.6	1.5	43.0	43.0
Cycle Q Clear(g_c), s	19.6	6.3	7.9	15.2	10.1	10.2	5.6	12.5	12.6	1.5	43.0	43.0
Prop In Lane	1.00		1.00	1.00		0.29	1.00		0.05	1.00		0.25
Lane Grp Cap(c), veh/h	208	474	394	272	450	447	231	907	945	424	849	850
V/C Ratio(X)	0.48	0.34	0.42	0.42	0.51	0.52	0.85	0.43	0.43	0.14	1.07	1.11
Avail Cap(c_a), veh/h	262	582	484	332	553	549	258	907	945	509	849	850
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	37.3	27.4	28.1	33.7	28.9	28.9	23.2	13.9	13.9	10.9	23.5	23.5
Incr Delay (d2), s/veh	1.7	0.4	0.7	1.0	0.9	0.9	19.0	1.5	1.5	0.1	50.6	66.2
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(50%),veh/ln	2.2	2.8	3.0	2.3	4.3	4.4	3.4	5.1	5.3	0.6	28.5	32.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	27.9	28.8	34.7	29.8	29.9	42.2	15.4	15.3	10.9	74.1	89.7
LnGrp LOS	D	C	C	C	C	C	D	B	B	B	F	F
Approach Vol, veh/h		423			578			1000			1912	
Approach Delay, s/veh		30.8			30.8			20.6			79.8	
Approach LOS		C			C			C			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.3	51.9		28.8	12.2	49.0		28.8				
Change Period (Y+Rc), s	4.6	6.0		6.0	4.6	6.0		6.0				
Max Green Setting (Gmax), s	9.0	36.4		28.0	9.0	36.4		28.0				
Max Q Clear Time (g_c+I1), s	3.5	14.6		17.2	7.6	45.0		21.6				
Green Ext Time (p_c), s	0.0	5.2		2.5	0.0	0.0		1.1				

Intersection Summary			
HCM 6th Ctrl Delay			52.1
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
34: Olive Ave & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	107	143	93	117	482	40	166	566	35	53	1001	203
Future Volume (veh/h)	107	143	93	117	482	40	166	566	35	53	1001	203
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.98	0.99		0.98
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	111	149	97	122	502	42	173	590	36	55	1043	211
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	394	739	450	527	1166	97	240	1020	62	290	763	154
Arrive On Green	0.06	0.35	0.35	0.06	0.35	0.35	0.09	0.30	0.30	0.05	0.26	0.26
Sat Flow, veh/h	1781	2106	1281	1781	3315	276	1781	3399	207	1781	2935	592
Grp Volume(v), veh/h	111	124	122	122	268	276	173	308	318	55	630	624
Grp Sat Flow(s),veh/h/ln	1781	1777	1611	1781	1777	1814	1781	1777	1829	1781	1777	1750
Q Serve(g_s), s	3.5	4.4	4.8	3.9	10.4	10.4	6.2	13.2	13.3	2.0	23.4	23.4
Cycle Q Clear(g_c), s	3.5	4.4	4.8	3.9	10.4	10.4	6.2	13.2	13.3	2.0	23.4	23.4
Prop In Lane	1.00		0.80	1.00		0.15	1.00		0.11	1.00		0.34
Lane Grp Cap(c), veh/h	394	623	565	527	625	638	240	533	549	290	462	455
V/C Ratio(X)	0.28	0.20	0.22	0.23	0.43	0.43	0.72	0.58	0.58	0.19	1.36	1.37
Avail Cap(c_a), veh/h	460	623	565	592	625	638	258	533	549	380	462	455
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	17.2	20.4	20.5	16.7	22.3	22.3	23.6	26.7	26.7	22.7	33.3	33.3
Incr Delay (d2), s/veh	0.3	0.7	0.9	0.2	2.1	2.1	8.1	1.5	1.5	0.2	177.3	180.6
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(50%),veh/ln	1.4	1.9	1.9	1.6	4.6	4.7	3.0	5.7	5.8	0.8	32.5	32.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.5	21.1	21.4	16.9	24.4	24.4	31.7	28.2	28.2	22.9	210.6	213.9
LnGrp LOS	B	C	C	B	C	C	C	C	C	C	F	F
Approach Vol, veh/h		357			666			799			1309	
Approach Delay, s/veh		20.1			23.0			29.0			204.3	
Approach LOS		C			C			C			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	37.6	12.7	29.4	10.2	37.7	9.1	33.0
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	9.0	27.4	9.0	23.4	9.0	27.4	9.0	23.4
Max Q Clear Time (g_c+I1), s	5.9	6.8	8.2	25.4	5.5	12.4	4.0	15.3
Green Ext Time (p_c), s	0.1	1.9	0.0	0.0	0.1	3.9	0.0	2.4

Intersection Summary	
HCM 6th Ctrl Delay	100.0
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↱		↰	↑↑↑	↱	↰	↑↑↱	
Traffic Volume (veh/h)	208	127	133	101	448	17	237	592	16	59	1072	357
Future Volume (veh/h)	208	127	133	101	448	17	237	592	16	59	1072	357
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	0.99		0.99
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	217	132	139	105	467	18	247	617	17	61	1117	372
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	650	546	127	509	20	271	2067	634	367	1224	408
Arrive On Green	0.13	0.35	0.35	0.07	0.28	0.28	0.12	0.40	0.40	0.04	0.32	0.32
Sat Flow, veh/h	1781	1870	1571	1781	1788	69	1781	5106	1565	1781	3777	1258
Grp Volume(v), veh/h	217	132	139	105	0	485	247	617	17	61	1007	482
Grp Sat Flow(s),veh/h/ln	1781	1870	1571	1781	0	1857	1781	1702	1565	1781	1702	1630
Q Serve(g_s), s	18.2	7.5	9.6	8.8	0.0	38.4	15.5	12.4	1.0	3.4	43.1	43.1
Cycle Q Clear(g_c), s	18.2	7.5	9.6	8.8	0.0	38.4	15.5	12.4	1.0	3.4	43.1	43.1
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	239	650	546	127	0	529	271	2067	634	367	1103	528
V/C Ratio(X)	0.91	0.20	0.25	0.82	0.00	0.92	0.91	0.30	0.03	0.17	0.91	0.91
Avail Cap(c_a), veh/h	293	650	546	351	0	612	531	2067	634	654	1121	537
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.8	34.8	35.5	69.5	0.0	52.6	43.2	30.6	27.2	32.1	49.2	49.2
Incr Delay (d2), s/veh	24.4	0.2	0.3	9.4	0.0	18.1	5.0	0.1	0.0	0.1	11.4	20.2
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(50%),veh/ln	9.9	3.5	3.8	4.4	0.0	20.6	9.8	5.2	0.4	1.5	20.1	20.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.2	35.0	35.8	79.0	0.0	70.7	48.2	30.7	27.2	32.2	60.6	69.4
LnGrp LOS	F	D	D	E	A	E	D	C	C	C	E	E
Approach Vol, veh/h		488			590			881			1550	
Approach Delay, s/veh		59.3			72.1			35.5			62.2	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.5	58.7	22.4	55.2	25.0	49.2	10.1	67.5
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	29.9	45.0	40.0	50.0	25.0	50.0	30.0	60.0
Max Q Clear Time (g_c+I1), s	10.8	11.6	17.5	45.1	20.2	40.4	5.4	14.4
Green Ext Time (p_c), s	0.2	1.9	0.3	4.1	0.1	2.8	0.1	7.2

Intersection Summary	
HCM 6th Ctrl Delay	56.8
HCM 6th LOS	E

HCM 6th Signalized Intersection Summary
1: Winona Ave & Hollywood Way

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↱		↰	↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	23	5	27	110	4	266	33	1828	65	66	1295	8
Future Volume (veh/h)	23	5	27	110	4	266	33	1828	65	66	1295	8
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	25	5	29	120	4	289	36	1987	71	72	1408	9
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	92	399	338	342	379	338	310	2130	76	165	3242	21
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.04	0.61	0.61	0.05	0.62	0.62
Sat Flow, veh/h	1086	1870	1583	1373	1777	1583	1781	3500	124	1781	5235	33
Grp Volume(v), veh/h	25	5	29	120	4	289	36	1003	1055	72	916	501
Grp Sat Flow(s),veh/h/ln	1086	1870	1583	1373	1777	1583	1781	1777	1847	1781	1702	1864
Q Serve(g_s), s	3.2	0.3	2.1	10.6	0.2	24.6	1.0	71.0	73.0	2.0	19.6	19.6
Cycle Q Clear(g_c), s	27.8	0.3	2.1	10.9	0.2	24.6	1.0	71.0	73.0	2.0	19.6	19.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.07	1.00		0.02
Lane Grp Cap(c), veh/h	92	399	338	342	379	338	310	1081	1124	165	2108	1154
V/C Ratio(X)	0.27	0.01	0.09	0.35	0.01	0.86	0.12	0.93	0.94	0.44	0.43	0.43
Avail Cap(c_a), veh/h	198	581	492	475	552	492	411	1081	1124	247	2108	1154
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	66.3	43.4	44.1	47.7	43.4	53.0	10.0	24.6	25.0	32.7	13.9	13.9
Incr Delay (d2), s/veh	1.6	0.0	0.1	0.6	0.0	9.7	0.1	14.6	15.6	1.4	0.7	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(50%),veh/ln	0.9	0.1	0.8	3.7	0.1	10.7	0.4	32.8	35.2	1.6	7.7	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.9	43.4	44.2	48.3	43.4	62.7	10.1	39.3	40.6	34.1	14.5	15.1
LnGrp LOS	E	D	D	D	D	E	B	D	D	C	B	B
Approach Vol, veh/h		59			413			2094			1489	
Approach Delay, s/veh		54.2			58.3			39.5			15.7	
Approach LOS		D			E			D			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	93.2		35.9	12.4	91.7		35.9
Change Period (Y+Rc), s	4.9	6.5		6.0	4.9	6.5		6.0
Max Green Setting (Gmax), s	14.0	65.1		43.5	14.0	65.1		43.5
Max Q Clear Time (g_c+I1), s	3.0	21.6		26.6	4.0	75.0		29.8
Green Ext Time (p_c), s	0.0	13.8		2.1	0.1	0.0		0.1

Intersection Summary	
HCM 6th Ctrl Delay	32.9
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
2: Thornton Ave & Hollywood Way

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑	↱	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	237	30	131	173	120	158	144	1406	131	52	1159	125
Future Volume (veh/h)	237	30	131	173	120	158	144	1406	131	52	1159	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.97	0.98		0.97	1.00		0.99	1.00		0.99
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	255	32	141	186	129	170	155	1512	141	56	1246	134
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	480	256	210	368	270	234	283	2290	1166	167	1938	859
Arrive On Green	0.08	0.14	0.14	0.10	0.15	0.15	0.06	0.64	0.64	0.55	0.55	0.55
Sat Flow, veh/h	3456	1870	1536	1781	1777	1541	1781	3554	1572	302	3554	1575
Grp Volume(v), veh/h	255	32	141	186	129	170	155	1512	141	56	1246	134
Grp Sat Flow(s),veh/h/ln	1728	1870	1536	1781	1777	1541	1781	1777	1572	302	1777	1575
Q Serve(g_s), s	8.7	2.1	12.2	12.5	9.3	14.7	5.0	36.9	3.6	19.7	34.4	5.9
Cycle Q Clear(g_c), s	8.7	2.1	12.2	12.5	9.3	14.7	5.0	36.9	3.6	42.7	34.4	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	480	256	210	368	270	234	283	2290	1166	167	1938	859
V/C Ratio(X)	0.53	0.12	0.67	0.51	0.48	0.73	0.55	0.66	0.12	0.34	0.64	0.16
Avail Cap(c_a), veh/h	779	553	454	368	399	346	411	2290	1166	167	1938	859
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	46.8	53.1	57.4	46.0	54.3	56.6	18.7	15.4	5.2	32.9	22.3	15.8
Incr Delay (d2), s/veh	0.9	0.2	3.7	0.5	1.3	4.3	1.2	1.5	0.2	5.4	1.7	0.4
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(50%),veh/ln	3.8	1.0	5.0	5.6	4.3	6.0	2.1	14.9	1.2	1.7	14.6	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.7	53.3	61.1	46.4	55.6	60.9	19.9	16.9	5.4	38.3	23.9	16.2
LnGrp LOS	D	D	E	D	E	E	B	B	A	D	C	B
Approach Vol, veh/h		428			485			1808			1436	
Approach Delay, s/veh		52.5			53.9			16.3			23.8	
Approach LOS		D			D			B			C	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	13.9	82.9	16.0	27.3		96.7	18.1	25.2
Change Period (Y+Rc), s	4.9	6.5	4.6	6.0		6.5	4.6	6.0
Max Green Setting (Gmax), s	19.0	44.1	23.5	31.4		68.0	13.5	41.4
Max Q Clear Time (g_c+I1), s	7.0	44.7	10.7	16.7		38.9	14.5	14.2
Green Ext Time (p_c), s	0.2	0.0	0.7	1.5		15.4	0.0	0.6

Intersection Summary			
HCM 6th Ctrl Delay			27.0
HCM 6th LOS			C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	247	865	100	110	1004	163	173	1004	99	205	869	339
Future Volume (veh/h)	247	865	100	110	1004	163	173	1004	99	205	869	339
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.99
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	252	883	102	112	1024	166	177	1024	101	209	887	346
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	1370	735	256	1190	675	242	1110	577	236	1156	678
Arrive On Green	0.11	0.39	0.39	0.06	0.33	0.33	0.08	0.31	0.31	0.09	0.33	0.33
Sat Flow, veh/h	1781	3554	1571	1781	3554	1569	1781	3554	1561	1781	3554	1562
Grp Volume(v), veh/h	252	883	102	112	1024	166	177	1024	101	209	887	346
Grp Sat Flow(s),veh/h/ln	1781	1777	1571	1781	1777	1569	1781	1777	1561	1781	1777	1562
Q Serve(g_s), s	13.1	28.4	5.2	5.7	37.7	9.5	9.4	39.0	6.1	11.0	31.4	22.6
Cycle Q Clear(g_c), s	13.1	28.4	5.2	5.7	37.7	9.5	9.4	39.0	6.1	11.0	31.4	22.6
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	273	1370	735	256	1190	675	242	1110	577	236	1156	678
V/C Ratio(X)	0.92	0.64	0.14	0.44	0.86	0.25	0.73	0.92	0.18	0.88	0.77	0.51
Avail Cap(c_a), veh/h	273	1370	735	347	1190	675	250	1152	596	310	1330	754
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	34.1	35.2	21.3	29.7	43.5	25.5	33.6	46.5	29.8	34.6	42.5	29.0
Incr Delay (d2), s/veh	34.0	2.3	0.4	0.4	8.2	0.9	8.8	11.9	0.1	17.5	2.4	0.6
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(50%),veh/ln	8.2	12.8	2.0	2.5	17.9	3.7	4.7	19.0	2.4	5.9	14.2	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.1	37.5	21.7	30.1	51.8	26.4	42.4	58.4	30.0	52.0	44.9	29.6
LnGrp LOS	E	D	C	C	D	C	D	E	C	D	D	C
Approach Vol, veh/h		1237			1302			1302			1442	
Approach Delay, s/veh		42.4			46.7			54.0			42.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	60.0	16.0	51.5	19.6	52.9	17.8	49.7
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	15.0	39.4	12.0	52.4	15.0	39.4	19.0	45.4
Max Q Clear Time (g_c+I1), s	7.7	30.4	11.4	33.4	15.1	39.7	13.0	41.0
Green Ext Time (p_c), s	0.1	4.2	0.0	7.6	0.0	0.0	0.2	2.8

Intersection Summary	
HCM 6th Ctrl Delay	46.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
4: Burbank Blvd & Hollywood Way

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	193	744	29	162	822	114	115	1077	112	137	770	147
Future Volume (veh/h)	193	744	29	162	822	114	115	1077	112	137	770	147
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	197	759	30	165	839	116	117	1099	114	140	786	150
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	287	1220	48	307	1218	539	232	1154	120	178	1079	206
Arrive On Green	0.09	0.35	0.35	0.08	0.34	0.34	0.06	0.36	0.36	0.06	0.36	0.36
Sat Flow, veh/h	1781	3484	138	1781	3554	1573	1781	3246	336	1781	2971	567
Grp Volume(v), veh/h	197	387	402	165	839	116	117	601	612	140	470	466
Grp Sat Flow(s),veh/h/ln	1781	1777	1844	1781	1777	1573	1781	1777	1805	1781	1777	1761
Q Serve(g_s), s	9.9	25.3	25.3	8.3	28.4	7.3	5.8	46.1	46.3	6.9	32.1	32.1
Cycle Q Clear(g_c), s	9.9	25.3	25.3	8.3	28.4	7.3	5.8	46.1	46.3	6.9	32.1	32.1
Prop In Lane	1.00		0.07	1.00		1.00	1.00		0.19	1.00		0.32
Lane Grp Cap(c), veh/h	287	622	646	307	1218	539	232	632	642	178	646	640
V/C Ratio(X)	0.69	0.62	0.62	0.54	0.69	0.22	0.50	0.95	0.95	0.79	0.73	0.73
Avail Cap(c_a), veh/h	324	622	646	358	1218	539	374	640	650	305	646	640
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	30.0	37.8	37.8	28.6	39.6	32.6	30.2	43.9	44.0	34.3	38.6	38.6
Incr Delay (d2), s/veh	3.7	4.6	4.5	0.5	3.2	0.9	0.6	24.1	24.2	2.9	4.1	4.2
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(50%),veh/ln	4.6	11.9	12.3	3.6	13.0	3.0	2.5	24.4	24.9	3.1	14.7	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	42.4	42.3	29.2	42.8	33.6	30.8	68.0	68.2	37.2	42.7	42.8
LnGrp LOS	C	D	D	C	D	C	C	E	E	D	D	D
Approach Vol, veh/h		986			1120			1330			1076	
Approach Delay, s/veh		40.6			39.8			64.8			42.0	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	55.0	12.5	56.9	16.6	54.0	13.6	55.8
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	15.0	34.4	19.0	50.4	15.0	34.4	19.0	50.4
Max Q Clear Time (g_c+I1), s	10.3	27.3	7.8	34.1	11.9	30.4	8.9	48.3
Green Ext Time (p_c), s	0.1	2.8	0.1	5.7	0.1	2.2	0.1	1.5

Intersection Summary		
HCM 6th Ctrl Delay		47.9
HCM 6th LOS		D

HCM 6th Signalized Intersection Summary
5: Magnolia Blvd & Hollywood Way

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	202	670	109	127	788	211	179	1098	141	210	705	307
Future Volume (veh/h)	202	670	109	127	788	211	179	1098	141	210	705	307
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.98	1.00		0.98
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	206	684	111	130	804	215	183	1120	144	214	719	313
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	1055	444	259	949	396	327	1418	619	257	1455	635
Arrive On Green	0.10	0.30	0.30	0.07	0.27	0.27	0.08	0.40	0.40	0.09	0.41	0.41
Sat Flow, veh/h	1781	3554	1494	1781	3554	1484	1781	3554	1550	1781	3554	1551
Grp Volume(v), veh/h	206	684	111	130	804	215	183	1120	144	214	719	313
Grp Sat Flow(s),veh/h/ln	1781	1777	1494	1781	1777	1484	1781	1777	1550	1781	1777	1551
Q Serve(g_s), s	11.4	23.5	7.9	7.3	30.0	17.4	8.4	38.7	8.6	9.9	21.0	20.9
Cycle Q Clear(g_c), s	11.4	23.5	7.9	7.3	30.0	17.4	8.4	38.7	8.6	9.9	21.0	20.9
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	253	1055	444	259	949	396	327	1418	619	257	1455	635
V/C Ratio(X)	0.81	0.65	0.25	0.50	0.85	0.54	0.56	0.79	0.23	0.83	0.49	0.49
Avail Cap(c_a), veh/h	322	1152	484	381	1152	481	397	1418	619	309	1455	635
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	35.8	42.8	37.4	35.1	48.6	44.0	23.6	36.9	27.9	30.1	30.6	30.6
Incr Delay (d2), s/veh	9.4	1.1	0.3	0.6	5.1	1.2	0.6	4.5	0.9	12.8	1.2	2.7
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(50%),veh/ln	5.6	10.5	3.0	3.3	14.0	6.6	3.6	17.6	3.4	5.1	9.3	8.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	45.1	44.0	37.7	35.7	53.8	45.1	24.2	41.5	28.7	42.9	31.8	33.3
LnGrp LOS	D	D	D	D	D	D	C	D	C	D	C	C
Approach Vol, veh/h		1001			1149			1447			1246	
Approach Delay, s/veh		43.5			50.1			38.0			34.1	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	63.3	18.2	43.4	16.6	61.9	14.0	47.6
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	16.0	38.4	19.0	45.4	16.0	38.4	19.0	45.4
Max Q Clear Time (g_c+I1), s	10.4	23.0	13.4	32.0	11.9	40.7	9.3	25.5
Green Ext Time (p_c), s	0.1	5.5	0.1	5.4	0.1	0.0	0.1	5.1

Intersection Summary			
HCM 6th Ctrl Delay			41.0
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
6: Hollywood Way & Verdugo Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	249	580	40	114	516	63	106	1109	115	88	590	136
Future Volume (veh/h)	249	580	40	114	516	63	106	1109	115	88	590	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.96	1.00		0.96
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	268	624	43	123	555	68	114	1192	124	95	634	146
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	255	671	563	187	596	499	309	1334	571	163	1318	563
Arrive On Green	0.10	0.36	0.36	0.06	0.32	0.32	0.05	0.38	0.38	0.05	0.37	0.37
Sat Flow, veh/h	1781	1870	1569	1781	1870	1567	1781	3554	1520	1781	3554	1519
Grp Volume(v), veh/h	268	624	43	123	555	68	114	1192	124	95	634	146
Grp Sat Flow(s),veh/h/ln	1781	1870	1569	1781	1870	1567	1781	1777	1520	1781	1777	1519
Q Serve(g_s), s	14.0	45.0	2.5	6.5	40.2	4.3	5.5	44.1	7.8	4.6	19.1	9.4
Cycle Q Clear(g_c), s	14.0	45.0	2.5	6.5	40.2	4.3	5.5	44.1	7.8	4.6	19.1	9.4
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	255	671	563	187	596	499	309	1334	571	163	1318	563
V/C Ratio(X)	1.05	0.93	0.08	0.66	0.93	0.14	0.37	0.89	0.22	0.58	0.48	0.26
Avail Cap(c_a), veh/h	255	671	563	258	668	560	455	1334	571	318	1318	563
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	36.9	43.2	29.6	35.5	46.2	34.0	26.4	41.1	29.7	33.4	33.7	30.7
Incr Delay (d2), s/veh	71.0	19.7	0.1	1.5	18.7	0.1	0.3	9.4	0.9	1.2	1.3	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(50%),veh/ln	11.1	24.3	1.0	2.9	21.7	1.7	2.4	21.0	3.0	2.0	8.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	107.8	62.9	29.7	37.0	64.9	34.1	26.6	50.5	30.6	34.6	35.0	31.8
LnGrp LOS	F	E	C	D	E	C	C	D	C	C	C	C
Approach Vol, veh/h		935			746			1430			875	
Approach Delay, s/veh		74.3			57.5			46.9			34.4	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	57.9	19.0	50.6	11.8	58.6	13.4	56.2
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	35.0	14.0	50.0	19.0	35.0	14.0	50.0
Max Q Clear Time (g_c+I1), s	7.5	21.1	16.0	42.2	6.6	46.1	8.5	47.0
Green Ext Time (p_c), s	0.1	4.1	0.0	2.4	0.1	0.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	52.6
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
7: Riverside Dr & Alameda Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↱		↰	✥			✥	
Traffic Volume (veh/h)	3	634	402	14	1077	25	878	10	30	42	19	36
Future Volume (veh/h)	3	634	402	14	1077	25	878	10	30	42	19	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	1.00		1.00	1.00		0.92
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	3	660	419	15	1122	26	951	0	0	44	20	38
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	1747	1230	256	1744	40	1067	560	0	54	25	47
Arrive On Green	0.49	0.49	0.49	0.98	0.98	0.98	0.30	0.00	0.00	0.08	0.08	0.08
Sat Flow, veh/h	487	3554	1535	521	3547	82	3563	1870	0	717	326	620
Grp Volume(v), veh/h	3	660	419	15	562	586	951	0	0	102	0	0
Grp Sat Flow(s),veh/h/ln	487	1777	1535	521	1777	1852	1781	1870	0	1663	0	0
Q Serve(g_s), s	0.4	13.9	9.4	0.9	1.7	1.7	30.6	0.0	0.0	7.2	0.0	0.0
Cycle Q Clear(g_c), s	2.1	13.9	9.4	14.8	1.7	1.7	30.6	0.0	0.0	7.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.00	0.43		0.37
Lane Grp Cap(c), veh/h	293	1747	1230	256	874	911	1067	560	0	125	0	0
V/C Ratio(X)	0.01	0.38	0.34	0.06	0.64	0.64	0.89	0.00	0.00	0.81	0.00	0.00
Avail Cap(c_a), veh/h	293	1747	1230	256	874	911	1366	717	0	166	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.52	0.52	0.52	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.5	19.0	3.6	2.5	0.5	0.5	40.2	0.0	0.0	54.7	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.6	0.8	0.2	1.9	1.8	6.4	0.0	0.0	20.0	0.0	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(50%),veh/ln	0.0	5.8	8.3	0.1	0.7	0.7	14.2	0.0	0.0	3.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.5	19.7	4.3	2.7	2.4	2.4	46.5	0.0	0.0	74.7	0.0	0.0
LnGrp LOS	B	B	A	A	A	A	D	A	A	E	A	A
Approach Vol, veh/h		1082			1163			951			102	
Approach Delay, s/veh		13.7			2.4			46.5			74.7	
Approach LOS		B			A			D			E	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		65.0		14.0		65.0		41.0				
Change Period (Y+Rc), s		6.0		5.0		6.0		5.0				
Max Green Setting (Gmax), s		46.0		12.0		46.0		46.0				
Max Q Clear Time (g_c+I1), s		15.9		9.2		16.8		32.6				
Green Ext Time (p_c), s		7.1		0.1		9.4		3.3				

Intersection Summary			
HCM 6th Ctrl Delay			21.1
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.

User approved changes to right turn type.

HCM 6th Signalized Intersection Summary
8: Pass Ave & Alameda Ave

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	153	522	14	43	728	160	125	388	38	260	420	207
Future Volume (veh/h)	153	522	14	43	728	160	125	388	38	260	420	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.99		0.97	0.99		0.97
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	159	544	15	45	758	167	130	404	40	271	438	216
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	207	962	26	296	696	153	401	1246	123	532	976	476
Arrive On Green	0.17	0.54	0.54	0.05	0.24	0.24	0.07	0.38	0.38	0.11	0.43	0.43
Sat Flow, veh/h	1781	3530	97	1781	2880	635	1781	3256	320	1781	2288	1116
Grp Volume(v), veh/h	159	274	285	45	468	457	130	219	225	271	339	315
Grp Sat Flow(s),veh/h/ln	1781	1777	1850	1781	1777	1738	1781	1777	1799	1781	1777	1627
Q Serve(g_s), s	8.0	12.2	12.2	2.2	29.0	29.0	5.2	10.4	10.6	10.6	16.2	16.5
Cycle Q Clear(g_c), s	8.0	12.2	12.2	2.2	29.0	29.0	5.2	10.4	10.6	10.6	16.2	16.5
Prop In Lane	1.00		0.05	1.00		0.37	1.00		0.18	1.00		0.69
Lane Grp Cap(c), veh/h	207	484	504	296	429	420	401	680	688	532	758	694
V/C Ratio(X)	0.77	0.57	0.57	0.15	1.09	1.09	0.32	0.32	0.33	0.51	0.45	0.45
Avail Cap(c_a), veh/h	208	484	504	353	429	420	491	680	688	692	758	694
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.3	22.6	22.6	31.0	45.5	45.5	20.3	26.1	26.1	18.0	24.4	24.5
Incr Delay (d2), s/veh	13.1	1.4	1.3	0.1	69.5	70.1	0.2	1.3	1.3	0.8	1.9	2.1
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(50%),veh/ln	3.8	4.2	4.4	1.0	21.0	20.6	2.2	4.7	4.8	4.4	7.2	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.4	24.0	24.0	31.1	115.0	115.6	20.5	27.3	27.4	18.7	26.3	26.6
LnGrp LOS	D	C	C	C	F	F	C	C	C	B	C	C
Approach Vol, veh/h		718			970			574			925	
Approach Delay, s/veh		28.3			111.4			25.8			24.2	
Approach LOS		C			F			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.2	38.7	12.9	57.2	14.9	35.0	18.2	51.9
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	10.0	29.0	14.0	45.0	10.0	29.0	24.0	35.0
Max Q Clear Time (g_c+I1), s	4.2	14.2	7.2	18.5	10.0	31.0	12.6	12.6
Green Ext Time (p_c), s	0.0	3.0	0.1	4.5	0.0	0.0	0.6	2.6

Intersection Summary	
HCM 6th Ctrl Delay	51.9
HCM 6th LOS	D

HCM Signalized Intersection Capacity Analysis
9: Olive Ave & Pass Ave

10/27/2021

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↰	↑↑↑	↑↑↱		↰	↱↱
Traffic Volume (vph)	503	1397	1454	108	30	420
Future Volume (vph)	503	1397	1454	108	30	420
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0		5.0	5.0
Lane Util. Factor	1.00	0.91	0.91		1.00	0.88
Frpb, ped/bikes	1.00	1.00	0.99		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	5085	5005		1770	2787
Flt Permitted	0.07	1.00	1.00		0.95	1.00
Satd. Flow (perm)	137	5085	5005		1770	2787
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	535	1486	1547	115	32	447
RTOR Reduction (vph)	0	0	6	0	0	318
Lane Group Flow (vph)	535	1486	1656	0	32	129
Confl. Peds. (#/hr)	43			43		
Turn Type	pm+pt	NA	NA		Prot	pt+ov
Protected Phases	3 5	2	6		4	4 3
Permitted Phases	2	3				
Actuated Green, G (s)	94.0	94.0	49.2		10.0	34.6
Effective Green, g (s)	94.0	94.0	49.2		10.0	34.6
Actuated g/C Ratio	0.78	0.78	0.41		0.08	0.29
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		3.0	3.0		2.0	
Lane Grp Cap (vph)	648	4237	2052		147	803
v/s Ratio Prot	c0.27	0.22	0.33		c0.02	0.05
v/s Ratio Perm	c0.37	0.07				
v/c Ratio	0.83	0.35	0.81		0.22	0.16
Uniform Delay, d1	30.6	3.9	31.2		51.3	31.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.1	0.0	3.5		0.3	0.0
Delay (s)	38.7	3.9	34.7		51.6	31.9
Level of Service	D	A	C		D	C
Approach Delay (s)		13.1	34.7		33.2	
Approach LOS		B	C		C	

Intersection Summary

HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	80.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM 6th Signalized Intersection Summary
10: Alameda Ave & Hollywood Way

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↑	↱	↰	↑↑	↱	↰↰	↑↑	↱
Traffic Volume (veh/h)	223	911	78	35	1010	427	316	710	309	124	434	292
Future Volume (veh/h)	223	911	78	35	1010	427	316	710	309	124	434	292
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.97
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	245	1001	86	38	1110	469	347	780	340	136	477	321
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	1502	129	117	1258	384	297	1289	563	256	960	417
Arrive On Green	0.13	0.31	0.31	0.07	0.25	0.25	0.33	0.73	0.73	0.07	0.27	0.27
Sat Flow, veh/h	1781	4784	410	1781	5106	1560	1781	3554	1552	3456	3554	1541
Grp Volume(v), veh/h	245	712	375	38	1110	469	347	780	340	136	477	321
Grp Sat Flow(s),veh/h/ln	1781	1702	1790	1781	1702	1560	1781	1777	1552	1728	1777	1541
Q Serve(g_s), s	15.0	21.8	21.8	2.4	25.1	23.1	20.0	12.9	12.8	4.6	13.6	15.9
Cycle Q Clear(g_c), s	15.0	21.8	21.8	2.4	25.1	23.1	20.0	12.9	12.8	4.6	13.6	15.9
Prop In Lane	1.00		0.23	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	1068	562	117	1258	384	297	1289	563	256	960	417
V/C Ratio(X)	1.10	0.67	0.67	0.32	0.88	1.22	1.17	0.61	0.60	0.53	0.50	0.77
Avail Cap(c_a), veh/h	223	1068	562	238	1277	390	297	1289	563	288	960	417
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	0.61	0.61	0.61	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	35.7	35.7	53.5	43.5	27.5	40.0	12.3	12.3	53.5	36.9	19.3
Incr Delay (d2), s/veh	89.7	1.6	3.0	2.2	7.7	120.5	96.2	1.3	2.9	0.6	1.8	12.9
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(50%),veh/ln	12.2	9.2	10.0	1.2	11.4	21.4	15.3	3.6	3.4	2.0	6.1	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	142.2	37.3	38.8	55.7	51.2	148.0	136.2	13.6	15.2	54.2	38.7	32.2
LnGrp LOS	F	D	D	E	D	F	F	B	B	D	D	C
Approach Vol, veh/h		1332			1617			1467			934	
Approach Delay, s/veh		57.0			79.4			42.9			38.7	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	38.4	21.0	35.6	13.9	49.5	12.9	43.7
Change Period (Y+Rc), s	5.0	6.0	6.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	32.0	15.0	30.0	10.0	42.0	16.0	30.0
Max Q Clear Time (g_c+I1), s	22.0	17.9	17.0	27.1	6.6	14.9	4.4	23.8
Green Ext Time (p_c), s	0.0	3.8	0.0	2.4	0.1	7.6	0.1	3.5

Intersection Summary			
HCM 6th Ctrl Delay			56.7
HCM 6th LOS			E

HCM 6th Signalized Intersection Summary
11: Hollywood Way & Riverside Dr

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	133	306	33	8	520	514	103	772	25	97	265	215
Future Volume (veh/h)	133	306	33	8	520	514	103	772	25	97	265	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	0.99		0.98	0.99		0.99	1.00		0.99
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	145	333	36	9	565	559	112	839	27	105	288	234
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	311	1267	136	424	1185	516	354	1180	38	294	1572	694
Arrive On Green	0.08	0.39	0.39	0.02	0.33	0.33	0.67	0.67	0.67	0.11	0.74	0.74
Sat Flow, veh/h	1781	3230	346	1781	3554	1549	875	3512	113	1781	3554	1570
Grp Volume(v), veh/h	145	182	187	9	565	559	112	424	442	105	288	234
Grp Sat Flow(s),veh/h/ln	1781	1777	1800	1781	1777	1549	875	1777	1848	1781	1777	1570
Q Serve(g_s), s	6.0	8.3	8.5	0.4	15.1	40.0	6.8	18.0	18.0	4.4	2.9	6.2
Cycle Q Clear(g_c), s	6.0	8.3	8.5	0.4	15.1	40.0	6.8	18.0	18.0	4.4	2.9	6.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	311	697	706	424	1185	516	354	597	621	294	1572	694
V/C Ratio(X)	0.47	0.26	0.26	0.02	0.48	1.08	0.32	0.71	0.71	0.36	0.18	0.34
Avail Cap(c_a), veh/h	312	697	706	545	1185	516	354	597	621	327	1572	694
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.72	0.72	0.72	0.73	0.73	0.73
Uniform Delay (d), s/veh	22.7	24.7	24.7	24.9	31.7	40.0	14.2	16.0	16.0	22.5	9.1	9.6
Incr Delay (d2), s/veh	0.8	0.2	0.2	0.0	0.3	63.7	1.7	5.1	4.9	0.4	0.2	1.0
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(50%),veh/ln	2.6	3.6	3.7	0.2	6.5	24.1	1.3	5.4	5.6	1.8	1.1	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.6	24.9	24.9	24.9	32.0	103.7	15.9	21.2	21.0	22.9	9.3	10.5
LnGrp LOS	C	C	C	C	C	F	B	C	C	C	A	B
Approach Vol, veh/h		514			1133			978			627	
Approach Delay, s/veh		24.5			67.3			20.5			12.0	
Approach LOS		C			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6		8
Phs Duration (G+Y+Rc), s	14.9	46.0	12.8	46.3	7.9	53.1		59.1
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0		6.0
Max Green Setting (Gmax), s	10.0	40.0	10.0	38.0	11.0	39.0		53.0
Max Q Clear Time (g_c+I1), s	8.0	42.0	6.4	20.0	2.4	10.5		8.2
Green Ext Time (p_c), s	0.1	0.0	0.1	6.0	0.0	2.3		2.9

Intersection Summary			
HCM 6th Ctrl Delay			35.8
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
12: Hollywood Way & Olive Ave

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↱		↰	↑↑↱			↰↑↱		↰	↑	↱↱
Traffic Volume (veh/h)	421	964	27	8	1083	59	45	205	28	29	19	228
Future Volume (veh/h)	421	964	27	8	1083	59	45	205	28	29	19	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.99	0.99		0.99
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	448	1026	29	9	1152	63	48	218	30	31	20	243
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	484	3543	100	414	2965	162	100	382	53	141	286	741
Arrive On Green	0.11	0.69	0.69	0.02	0.60	0.60	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1781	5103	144	1781	4951	271	393	2495	344	1124	1870	2751
Grp Volume(v), veh/h	448	684	371	9	792	423	154	0	142	31	20	243
Grp Sat Flow(s),veh/h/ln	1781	1702	1843	1781	1702	1817	1599	0	1634	1124	1870	1376
Q Serve(g_s), s	10.9	9.2	9.2	0.2	14.6	14.6	7.1	0.0	9.7	3.2	1.1	8.5
Cycle Q Clear(g_c), s	10.9	9.2	9.2	0.2	14.6	14.6	10.5	0.0	9.7	12.9	1.1	8.5
Prop In Lane	1.00		0.08	1.00		0.15	0.31		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	484	2363	1280	414	2038	1088	284	0	250	141	286	741
V/C Ratio(X)	0.93	0.29	0.29	0.02	0.39	0.39	0.54	0.00	0.57	0.22	0.07	0.33
Avail Cap(c_a), veh/h	576	2363	1280	677	2038	1088	549	0	531	334	608	1215
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	0.00	1.00	0.99	0.99	0.99
Uniform Delay (d), s/veh	14.6	7.0	7.0	8.8	12.6	12.6	47.3	0.0	47.2	53.1	43.5	35.3
Incr Delay (d2), s/veh	19.3	0.3	0.6	0.0	0.6	1.0	1.6	0.0	2.0	0.8	0.1	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(50%),veh/ln	10.5	3.2	3.6	0.1	5.6	6.1	4.4	0.0	4.1	0.9	0.5	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.9	7.3	7.6	8.8	13.1	13.6	48.9	0.0	49.2	53.9	43.6	35.5
LnGrp LOS	C	A	A	A	B	B	D	A	D	D	D	D
Approach Vol, veh/h		1503			1224			296			294	
Approach Delay, s/veh		15.3			13.3			49.0			38.0	
Approach LOS		B			B			D			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.8	77.9		23.4	7.3	89.3		23.4				
Change Period (Y+Rc), s	5.0	6.0		5.0	5.0	6.0		5.0				
Max Green Setting (Gmax), s	20.0	45.0		39.0	20.0	45.0		39.0				
Max Q Clear Time (g_c+I1), s	12.9	16.6		14.9	2.2	11.2		12.5				
Green Ext Time (p_c), s	0.9	9.8		1.2	0.0	8.6		1.8				

Intersection Summary			
HCM 6th Ctrl Delay			19.6
HCM 6th LOS			B

HCM 6th Signalized Intersection Summary
13: Riverside Dr & Olive Ave

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	53	953	142	27	860	210	344	705	76	81	299	18
Future Volume (veh/h)	53	953	142	27	860	210	344	705	76	81	299	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.99		0.98	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	58	1047	156	30	945	231	378	775	84	89	329	0
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	237	1162	509	194	1082	474	490	1510	164	253	1664	
Arrive On Green	0.09	0.33	0.33	0.06	0.30	0.30	0.47	0.47	0.47	0.47	0.47	0.00
Sat Flow, veh/h	1781	3554	1557	1781	3554	1555	1038	3225	349	642	3554	1585
Grp Volume(v), veh/h	58	1047	156	30	945	231	378	427	432	89	329	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1557	1781	1777	1555	1038	1777	1797	642	1777	1585
Q Serve(g_s), s	2.5	33.7	9.0	1.3	30.2	14.6	40.3	20.2	20.2	13.5	6.5	0.0
Cycle Q Clear(g_c), s	2.5	33.7	9.0	1.3	30.2	14.6	46.8	20.2	20.2	33.7	6.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.19	1.00		1.00
Lane Grp Cap(c), veh/h	237	1162	509	194	1082	474	490	832	841	253	1664	
V/C Ratio(X)	0.24	0.90	0.31	0.15	0.87	0.49	0.77	0.51	0.51	0.35	0.20	
Avail Cap(c_a), veh/h	367	1185	519	363	1185	518	490	832	841	253	1664	
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	27.4	38.5	30.2	28.7	39.5	34.1	32.4	22.3	22.3	34.1	18.7	0.0
Incr Delay (d2), s/veh	0.4	9.5	0.3	0.3	7.0	0.8	11.2	2.3	2.2	3.8	0.3	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(50%),veh/ln	1.1	16.0	3.4	0.6	14.1	5.6	11.4	8.9	9.0	2.4	2.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.8	48.1	30.5	29.0	46.5	34.9	43.6	24.6	24.6	38.0	19.0	0.0
LnGrp LOS	C	D	C	C	D	C	D	C	C	D	B	
Approach Vol, veh/h		1261			1206			1237			418	A
Approach Delay, s/veh		45.0			43.8			30.4			23.0	
Approach LOS		D			D			C			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.6	45.2		62.2	15.3	42.5		62.2				
Change Period (Y+Rc), s	5.0	6.0		6.0	5.0	6.0		6.0				
Max Green Setting (Gmax), s	19.0	40.0		44.0	19.0	40.0		44.0				
Max Q Clear Time (g_c+I1), s	3.3	35.7		35.7	4.5	32.2		48.8				
Green Ext Time (p_c), s	0.0	2.8		1.8	0.1	4.3		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			38.0									
HCM 6th LOS			D									

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM Signalized Intersection Capacity Analysis
14: Alameda Ave & Ontario St & Olive Ave

10/27/2021

Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBT	NBR	SBT	SBR
Lane Configurations		↰↰	↑↑		↰↰	↑↑			↑↑	↱	↑↑	↱
Traffic Volume (vph)	11	319	358	14	260	731	27	7	925	261	569	296
Future Volume (vph)	11	319	358	14	260	731	27	7	925	261	569	296
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.5	8.0		7.5	8.0			6.5	7.5	6.5	3.0
Lane Util. Factor		0.97	0.95		0.97	0.95			0.95	1.00	0.95	1.00
Frpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	0.98	1.00	0.91
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Frt		1.00	0.99		1.00	0.99			1.00	0.85	1.00	0.85
Flt Protected		0.95	1.00		0.95	1.00			1.00	1.00	1.00	1.00
Satd. Flow (prot)		3433	3515		3433	3509			3539	1547	3539	1438
Flt Permitted		0.95	1.00		0.95	1.00			1.00	1.00	1.00	1.00
Satd. Flow (perm)		3433	3515		3433	3509			3539	1547	3539	1438
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	11	332	373	15	271	761	28	7	964	272	593	308
RTOR Reduction (vph)	0	0	2	0	0	1	0	0	0	0	0	0
Lane Group Flow (vph)	0	343	386	0	271	795	0	0	964	272	593	321
Confl. Peds. (#/hr)	4	19		12	12		15	10		18		10
Turn Type	Prot	Prot	NA		Prot	NA			NA	custom	NA	custom
Protected Phases	1	1	6		5	2			8		4	
Permitted Phases										5 7 8		3 4
Actuated Green, G (s)		17.9	38.1		15.2	35.4			41.6	69.8	41.0	48.1
Effective Green, g (s)		17.9	38.1		15.2	35.4			41.6	60.3	41.0	48.1
Actuated g/C Ratio		0.15	0.31		0.12	0.29			0.34	0.49	0.33	0.39
Clearance Time (s)		7.5	8.0		7.5	8.0			6.5		6.5	
Vehicle Extension (s)		2.5	4.0		2.5	4.0			3.0		3.0	
Lane Grp Cap (vph)		497	1085		422	1006			1193	755	1175	560
v/s Ratio Prot		c0.10	c0.11		0.08	c0.23			c0.27		0.17	
v/s Ratio Perm										0.18		c0.22
v/c Ratio		0.69	0.36		0.64	0.79			0.81	0.36	0.50	0.57
Uniform Delay, d1		50.1	33.1		51.5	40.6			37.3	19.6	33.1	29.6
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		3.8	0.3		2.9	4.5			4.1	0.2	0.3	1.4
Delay (s)		53.9	33.4		54.5	45.1			41.4	19.8	33.4	31.0
Level of Service		D	C		D	D			D	B	C	C
Approach Delay (s)			43.0			47.5			36.6		32.6	
Approach LOS			D			D			D		C	

Intersection Summary			
HCM 2000 Control Delay	39.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	123.4	Sum of lost time (s)	25.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR2	SER2
Lane Configurations		↱
Traffic Volume (vph)	12	56
Future Volume (vph)	12	56
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		7.5
Lane Util. Factor		1.00
Frpb, ped/bikes		1.00
Flpb, ped/bikes		1.00
Frt		0.86
Flt Protected		1.00
Satd. Flow (prot)		1611
Flt Permitted		1.00
Satd. Flow (perm)		1611
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	12	58
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	58
Confl. Peds. (#/hr)	15	10
Turn Type		Over
Protected Phases		1
Permitted Phases		
Actuated Green, G (s)		17.9
Effective Green, g (s)		17.9
Actuated g/C Ratio		0.15
Clearance Time (s)		7.5
Vehicle Extension (s)		2.5
Lane Grp Cap (vph)		233
v/s Ratio Prot		0.04
v/s Ratio Perm		
v/c Ratio		0.25
Uniform Delay, d1		46.8
Progression Factor		1.00
Incremental Delay, d2		0.4
Delay (s)		47.2
Level of Service		D
Approach Delay (s)		
Approach LOS		

Intersection Summary

HCM 6th Signalized Intersection Summary
15: Buena Vista St & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↱			✥	
Traffic Volume (veh/h)	29	902	140	115	887	24	245	193	103	22	107	12
Future Volume (veh/h)	29	902	140	115	887	24	245	193	103	22	107	12
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		1.00	0.99		0.99	0.99		0.99
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	30	920	143	117	905	24	250	197	105	22	109	12
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	1443	224	321	2076	55	397	314	167	66	183	19
Arrive On Green	0.47	0.47	0.47	0.06	0.59	0.59	0.09	0.27	0.27	0.13	0.13	0.13
Sat Flow, veh/h	602	3079	479	1781	3536	94	1781	1146	611	157	1422	145
Grp Volume(v), veh/h	30	531	532	117	455	474	250	0	302	143	0	0
Grp Sat Flow(s),veh/h/ln	602	1777	1781	1781	1777	1853	1781	0	1756	1724	0	0
Q Serve(g_s), s	2.6	20.4	20.4	2.8	12.8	12.8	8.5	0.0	13.6	2.5	0.0	0.0
Cycle Q Clear(g_c), s	4.7	20.4	20.4	2.8	12.8	12.8	8.5	0.0	13.6	6.9	0.0	0.0
Prop In Lane	1.00		0.27	1.00		0.05	1.00		0.35	0.15		0.08
Lane Grp Cap(c), veh/h	348	832	835	321	1043	1088	397	0	481	268	0	0
V/C Ratio(X)	0.09	0.64	0.64	0.36	0.44	0.44	0.63	0.00	0.63	0.53	0.00	0.00
Avail Cap(c_a), veh/h	348	832	835	387	1043	1088	397	0	751	522	0	0
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	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	14.6	18.1	18.1	13.2	10.3	10.3	30.2	0.0	28.6	37.1	0.0	0.0
Incr Delay (d2), s/veh	0.5	3.7	3.7	0.5	1.3	1.3	2.8	0.0	1.4	1.7	0.0	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(50%),veh/ln	0.4	8.7	8.8	1.1	4.9	5.1	5.0	0.0	5.8	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.1	21.8	21.8	13.7	11.6	11.6	33.0	0.0	30.0	38.8	0.0	0.0
LnGrp LOS	B	C	C	B	B	B	C	A	C	D	A	A
Approach Vol, veh/h		1093			1046			552			143	
Approach Delay, s/veh		21.7			11.8			31.4			38.8	
Approach LOS		C			B			C			D	
Timer - Assigned Phs		2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s		59.3		30.7	10.7	48.7	13.1	17.6				
Change Period (Y+Rc), s		6.5		6.0	5.0	6.5	4.6	6.0				
Max Green Setting (Gmax), s		39.0		38.5	9.0	25.0	8.5	25.4				
Max Q Clear Time (g_c+I1), s		14.8		15.6	4.8	22.4	10.5	8.9				
Green Ext Time (p_c), s		7.8		1.9	0.1	1.8	0.0	0.6				
Intersection Summary												
HCM 6th Ctrl Delay			20.8									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary
16: San Fernando Blvd & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	173	323	66	54	340	538	68	1168	28	209	799	122
Future Volume (veh/h)	173	323	66	54	340	538	68	1168	28	209	799	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	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	184	344	70	57	362	572	72	1243	30	222	850	0
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	867	174	297	852	377	90	1430	34	248	1756	
Arrive On Green	0.09	0.29	0.29	0.03	0.24	0.24	0.05	0.40	0.40	0.14	0.49	0.00
Sat Flow, veh/h	1781	2944	592	1781	3554	1571	1781	3546	86	1781	3554	1585
Grp Volume(v), veh/h	184	206	208	57	362	572	72	623	650	222	850	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1759	1781	1777	1571	1781	1777	1854	1781	1777	1585
Q Serve(g_s), s	12.7	15.4	15.8	4.0	14.4	40.0	6.7	53.7	53.8	20.5	26.5	0.0
Cycle Q Clear(g_c), s	12.7	15.4	15.8	4.0	14.4	40.0	6.7	53.7	53.8	20.5	26.5	0.0
Prop In Lane	1.00		0.34	1.00		1.00	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	293	524	518	297	852	377	90	716	748	248	1756	
V/C Ratio(X)	0.63	0.39	0.40	0.19	0.43	1.52	0.80	0.87	0.87	0.90	0.48	
Avail Cap(c_a), veh/h	348	524	518	450	852	377	271	799	833	427	1916	
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	41.7	47.0	47.1	45.7	53.7	63.4	78.4	45.7	45.8	70.7	28.1	0.0
Incr Delay (d2), s/veh	1.4	0.7	0.7	0.1	0.5	246.8	6.0	9.9	9.6	14.1	0.4	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(50%),veh/ln	5.8	7.0	7.1	1.8	6.6	41.8	3.2	25.7	26.8	10.4	11.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	47.6	47.8	45.8	54.2	310.2	84.4	55.7	55.4	84.7	28.5	0.0
LnGrp LOS	D	D	D	D	D	F	F	E	E	F	C	
Approach Vol, veh/h		598			991			1345			1072	A
Approach Delay, s/veh		46.3			201.5			57.1			40.2	
Approach LOS		D			F			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.2	55.2	13.0	88.5	19.4	46.0	28.2	73.3
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	20.0	40.0	25.4	90.0	20.0	40.0	40.0	75.0
Max Q Clear Time (g_c+I1), s	6.0	17.8	8.7	28.5	14.7	42.0	22.5	55.8
Green Ext Time (p_c), s	0.0	3.5	0.1	15.8	0.1	0.0	0.7	11.5

Intersection Summary	
HCM 6th Ctrl Delay	86.7
HCM 6th LOS	F

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
17: Buena Vista St & Empire Ave

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰↰	↑↱		↰	↑↑	↱	↰↰	↑↱	
Traffic Volume (veh/h)	145	191	213	422	305	158	203	903	473	111	604	97
Future Volume (veh/h)	145	191	213	422	305	158	203	903	473	111	604	97
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.98	1.00		0.99	1.00		0.99
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	151	199	222	440	318	165	211	941	493	116	629	101
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	611	265	469	501	254	413	1708	758	164	1380	221
Arrive On Green	0.09	0.17	0.17	0.14	0.22	0.22	0.08	0.48	0.48	0.05	0.45	0.45
Sat Flow, veh/h	1781	3554	1541	3456	2265	1146	1781	3554	1576	3456	3064	491
Grp Volume(v), veh/h	151	199	222	440	248	235	211	941	493	116	364	366
Grp Sat Flow(s),veh/h/ln	1781	1777	1541	1728	1777	1634	1781	1777	1576	1728	1777	1778
Q Serve(g_s), s	11.0	6.9	15.8	17.7	17.7	18.3	8.7	26.2	19.0	4.6	19.8	19.9
Cycle Q Clear(g_c), s	11.0	6.9	15.8	17.7	17.7	18.3	8.7	26.2	19.0	4.6	19.8	19.9
Prop In Lane	1.00		1.00	1.00		0.70	1.00		1.00	1.00		0.28
Lane Grp Cap(c), veh/h	218	611	265	469	393	362	413	1708	758	164	800	801
V/C Ratio(X)	0.69	0.33	0.84	0.94	0.63	0.65	0.51	0.55	0.65	0.71	0.46	0.46
Avail Cap(c_a), veh/h	255	863	374	469	470	432	466	1708	758	296	800	801
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	0.85	0.85	0.85	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	50.9	36.9	59.9	49.3	49.6	19.3	25.7	9.0	65.7	26.6	26.6
Incr Delay (d2), s/veh	5.7	0.3	11.1	26.7	2.0	2.6	0.6	1.1	3.7	4.1	1.9	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(50%),veh/ln	5.3	3.1	6.8	9.5	8.1	7.8	3.7	11.3	7.0	2.1	8.9	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.1	51.2	48.0	86.6	51.3	52.2	19.9	26.8	12.7	69.8	28.5	28.5
LnGrp LOS	E	D	D	F	D	D	B	C	B	E	C	C
Approach Vol, veh/h		572			923			1645			846	
Approach Delay, s/veh		52.6			68.3			21.7			34.1	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.0	30.1	15.9	69.1	18.1	37.0	11.7	73.3
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	* 34	15.0	50.0	16.0	37.0	12.0	53.0
Max Q Clear Time (g_c+I1), s	19.7	17.8	10.7	21.9	13.0	20.3	6.6	28.2
Green Ext Time (p_c), s	0.0	1.8	0.2	5.1	0.1	2.7	0.1	11.7

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
18: Vanowen St/Driveway & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↱		✥		↰	↑↑			↑↑	↱
Traffic Volume (vph)	439	0	383	0	0	0	258	1120	0	0	1028	320
Future Volume (vph)	439	0	383	0	0	0	258	1120	0	0	1028	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7	5.7				6.0	6.0			6.0	6.0
Lane Util. Factor	0.95	0.95	1.00				1.00	0.95			0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.97				1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)	1681	1681	1538				1770	3539			3539	1560
Flt Permitted	0.95	0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (perm)	1681	1681	1538				1770	3539			3539	1560
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	477	0	416	0	0	0	280	1217	0	0	1117	348
RTOR Reduction (vph)	0	0	329	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	238	239	87	0	0	0	280	1217	0	0	1117	348
Confl. Peds. (#/hr)	7		7	7		7	1					1
Turn Type	Split	NA	Perm				Prot	NA			NA	Perm
Protected Phases	4	4			3		5	2			6	
Permitted Phases			4	3								6
Actuated Green, G (s)	30.2	30.2	30.2				33.2	102.6			63.4	63.4
Effective Green, g (s)	30.2	30.2	30.2				33.2	102.6			63.4	63.4
Actuated g/C Ratio	0.21	0.21	0.21				0.23	0.71			0.44	0.44
Clearance Time (s)	5.7	5.7	5.7				6.0	6.0			6.0	6.0
Vehicle Extension (s)	3.5	3.5	3.5				2.0	4.0			4.0	4.0
Lane Grp Cap (vph)	351	351	321				406	2512			1552	684
v/s Ratio Prot	0.14	c0.14					c0.16	0.34			c0.32	
v/s Ratio Perm			0.06									0.22
v/c Ratio	0.68	0.68	0.27				0.69	0.48			0.72	0.51
Uniform Delay, d1	52.7	52.7	47.9				50.9	9.3			33.3	29.3
Progression Factor	1.00	1.00	1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2	5.3	5.6	0.5				3.9	0.7			2.9	2.7
Delay (s)	58.0	58.3	48.5				54.8	9.9			36.2	32.0
Level of Service	E	E	D				D	A			D	C
Approach Delay (s)		53.6			0.0			18.3			35.2	
Approach LOS		D			A			B			D	

Intersection Summary			
HCM 2000 Control Delay	32.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	144.5	Sum of lost time (s)	22.3
Intersection Capacity Utilization	76.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
19: Victory Blvd & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	216	827	173	133	138	228	295	926	76	346	919	116
Future Volume (veh/h)	216	827	173	133	138	228	295	926	76	346	919	116
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	1.00		0.97	1.00		0.97	1.00		0.97
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	225	861	180	139	144	238	307	965	79	360	957	121
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	434	914	396	195	788	340	361	1310	566	387	1395	604
Arrive On Green	0.11	0.26	0.26	0.07	0.22	0.22	0.12	0.37	0.37	0.15	0.39	0.39
Sat Flow, veh/h	1781	3554	1541	1781	3554	1534	1781	3554	1535	1781	3554	1538
Grp Volume(v), veh/h	225	861	180	139	144	238	307	965	79	360	957	121
Grp Sat Flow(s),veh/h/ln	1781	1777	1541	1781	1777	1534	1781	1777	1535	1781	1777	1538
Q Serve(g_s), s	13.2	33.3	13.8	8.3	4.6	20.0	14.8	32.9	4.8	18.0	31.3	7.3
Cycle Q Clear(g_c), s	13.2	33.3	13.8	8.3	4.6	20.0	14.8	32.9	4.8	18.0	31.3	7.3
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	434	914	396	195	788	340	361	1310	566	387	1395	604
V/C Ratio(X)	0.52	0.94	0.45	0.71	0.18	0.70	0.85	0.74	0.14	0.93	0.69	0.20
Avail Cap(c_a), veh/h	480	924	401	304	924	399	572	1310	566	556	1395	604
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	34.5	51.0	43.7	40.9	44.2	50.2	27.9	38.3	29.4	30.6	35.3	28.0
Incr Delay (d2), s/veh	0.7	17.3	0.8	3.6	0.1	4.4	5.8	3.7	0.5	16.4	2.8	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(50%),veh/ln	5.9	17.0	5.4	3.9	2.1	8.1	6.8	15.0	1.9	9.4	14.1	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.2	68.3	44.6	44.5	44.3	54.6	33.6	42.0	29.9	47.0	38.1	28.8
LnGrp LOS	D	E	D	D	D	D	C	D	C	D	D	C
Approach Vol, veh/h		1266			521			1351			1438	
Approach Delay, s/veh		59.0			49.1			39.4			39.5	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	42.0	22.0	61.0	20.0	37.0	25.3	57.6
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	19.0	36.4	34.0	29.4	19.0	36.4	34.0	29.4
Max Q Clear Time (g_c+I1), s	10.3	35.3	16.8	33.3	15.2	22.0	20.0	34.9
Green Ext Time (p_c), s	0.2	0.7	0.6	0.0	0.2	1.5	0.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	46.0
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
20: Burbank Blvd & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	159	625	204	157	595	133	223	1053	130	154	960	225
Future Volume (veh/h)	159	625	204	157	595	133	223	1053	130	154	960	225
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
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	166	651	212	164	620	139	232	1097	135	160	1000	234
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	238	757	335	228	754	334	317	1718	762	279	1639	727
Arrive On Green	0.09	0.21	0.21	0.09	0.21	0.21	0.09	0.48	0.48	0.06	0.46	0.46
Sat Flow, veh/h	1781	3554	1574	1781	3554	1574	1781	3554	1576	1781	3554	1576
Grp Volume(v), veh/h	166	651	212	164	620	139	232	1097	135	160	1000	234
Grp Sat Flow(s),veh/h/ln	1781	1777	1574	1781	1777	1574	1781	1777	1576	1781	1777	1576
Q Serve(g_s), s	10.1	24.7	17.1	10.0	23.3	10.7	9.5	32.3	6.8	6.6	29.5	13.2
Cycle Q Clear(g_c), s	10.1	24.7	17.1	10.0	23.3	10.7	9.5	32.3	6.8	6.6	29.5	13.2
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	238	757	335	228	754	334	317	1718	762	279	1639	727
V/C Ratio(X)	0.70	0.86	0.63	0.72	0.82	0.42	0.73	0.64	0.18	0.57	0.61	0.32
Avail Cap(c_a), veh/h	275	873	387	266	873	387	635	1718	762	636	1639	727
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	40.5	53.1	50.1	40.8	52.6	47.6	22.9	27.0	20.4	22.1	28.3	23.9
Incr Delay (d2), s/veh	5.6	7.8	2.6	6.9	5.6	0.8	2.4	1.8	0.5	1.4	1.7	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(50%),veh/ln	4.8	11.9	7.0	4.8	11.0	4.3	4.1	14.1	2.6	2.8	13.0	5.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.0	60.9	52.7	47.6	58.2	48.5	25.4	28.9	20.9	23.5	30.0	25.0
LnGrp LOS	D	E	D	D	E	D	C	C	C	C	C	C
Approach Vol, veh/h		1029			923			1464			1394	
Approach Delay, s/veh		56.8			54.9			27.6			28.4	
Approach LOS		E			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.6	35.8	17.0	70.6	16.8	35.7	13.9	73.7
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	15.0	34.4	37.0	32.0	15.0	34.4	37.0	32.0
Max Q Clear Time (g_c+I1), s	12.0	26.7	11.5	31.5	12.1	25.3	8.6	34.3
Green Ext Time (p_c), s	0.1	3.1	0.5	0.3	0.1	3.2	0.3	0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
21: Magnolia Blvd & Buena Vista St

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	192	832	101	117	858	237	163	1016	205	288	707	141
Future Volume (veh/h)	192	832	101	117	858	237	163	1016	205	288	707	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.98	1.00		0.98
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	198	858	104	121	885	244	168	1047	211	297	729	145
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	983	433	194	873	384	362	1356	593	325	1532	672
Arrive On Green	0.10	0.28	0.28	0.06	0.25	0.25	0.07	0.38	0.38	0.12	0.43	0.43
Sat Flow, veh/h	1781	3554	1564	1781	3554	1562	1781	3554	1555	1781	3554	1559
Grp Volume(v), veh/h	198	858	104	121	885	244	168	1047	211	297	729	145
Grp Sat Flow(s),veh/h/ln	1781	1777	1564	1781	1777	1562	1781	1777	1555	1781	1777	1559
Q Serve(g_s), s	11.3	32.2	7.2	7.0	34.4	19.6	7.9	36.2	13.6	14.6	20.6	8.2
Cycle Q Clear(g_c), s	11.3	32.2	7.2	7.0	34.4	19.6	7.9	36.2	13.6	14.6	20.6	8.2
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	222	983	433	194	873	384	362	1356	593	325	1532	672
V/C Ratio(X)	0.89	0.87	0.24	0.62	1.01	0.64	0.46	0.77	0.36	0.91	0.48	0.22
Avail Cap(c_a), veh/h	242	983	433	269	873	384	702	1356	593	577	1532	672
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	37.6	48.3	39.2	39.2	52.8	47.2	23.9	38.0	31.0	32.1	28.5	25.0
Incr Delay (d2), s/veh	29.3	8.7	0.3	2.4	33.9	3.4	0.7	4.3	1.7	9.0	1.1	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(50%),veh/ln	6.8	15.5	2.8	3.2	19.4	8.0	3.5	16.5	5.4	7.0	9.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.8	57.0	39.5	41.7	86.7	50.6	24.6	42.3	32.6	41.0	29.6	25.7
LnGrp LOS	E	E	D	D	F	D	C	D	C	D	C	C
Approach Vol, veh/h		1160			1250			1426			1171	
Approach Delay, s/veh		57.1			75.3			38.8			32.0	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	44.7	15.3	66.4	18.0	40.4	22.2	59.4
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	15.0	34.4	37.0	32.0	15.0	34.4	37.0	32.0
Max Q Clear Time (g_c+I1), s	9.0	34.2	9.9	22.6	13.3	36.4	16.6	38.2
Green Ext Time (p_c), s	0.1	0.1	0.3	3.8	0.1	0.0	0.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
22: Olive Ave & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	366	1025	104	134	663	62	109	864	169	103	428	201
Future Volume (veh/h)	366	1025	104	134	663	62	109	864	169	103	428	201
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
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	389	1090	111	143	705	66	116	919	180	110	455	214
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	409	1143	116	197	775	73	356	1303	572	219	1295	568
Arrive On Green	0.19	0.35	0.35	0.08	0.24	0.24	0.05	0.37	0.37	0.05	0.36	0.36
Sat Flow, veh/h	1781	3251	331	1781	3278	307	1781	3554	1559	1781	3554	1559
Grp Volume(v), veh/h	389	595	606	143	382	389	116	919	180	110	455	214
Grp Sat Flow(s),veh/h/ln	1781	1777	1805	1781	1777	1808	1781	1777	1559	1781	1777	1559
Q Serve(g_s), s	24.6	45.7	45.8	8.4	29.3	29.3	5.7	30.9	11.6	5.4	13.1	14.2
Cycle Q Clear(g_c), s	24.6	45.7	45.8	8.4	29.3	29.3	5.7	30.9	11.6	5.4	13.1	14.2
Prop In Lane	1.00		0.18	1.00		0.17	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	409	625	635	197	420	428	356	1303	572	219	1295	568
V/C Ratio(X)	0.95	0.95	0.95	0.73	0.91	0.91	0.33	0.71	0.31	0.50	0.35	0.38
Avail Cap(c_a), veh/h	414	625	635	304	449	457	374	1303	572	241	1295	568
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	39.4	44.2	44.3	39.8	52.0	52.0	26.0	37.9	31.7	29.7	32.4	32.8
Incr Delay (d2), s/veh	31.4	24.8	24.9	3.8	21.4	21.4	0.4	3.2	1.4	1.3	0.8	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(50%),veh/ln	14.3	24.3	24.8	3.9	15.5	15.8	2.5	14.1	4.7	2.4	5.8	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.8	69.0	69.2	43.6	73.4	73.3	26.4	41.1	33.2	31.0	33.2	34.7
LnGrp LOS	E	E	E	D	E	E	C	D	C	C	C	C
Approach Vol, veh/h		1590			914			1215			779	
Approach Delay, s/veh		69.5			68.7			38.5			33.3	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	55.2	12.6	57.0	31.2	39.1	12.3	57.3
Change Period (Y+Rc), s	4.6	6.0	5.0	6.0	4.6	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	43.4	9.0	47.0	27.0	35.4	9.0	47.0
Max Q Clear Time (g_c+I1), s	10.4	47.8	7.7	16.2	26.6	31.3	7.4	32.9
Green Ext Time (p_c), s	0.2	0.0	0.0	4.1	0.1	1.8	0.0	6.1

Intersection Summary	
HCM 6th Ctrl Delay	54.7
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
23: Alameda Ave & Buena Vista St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	233	1022	138	240	564	223	111	718	139	279	332	64
Future Volume (veh/h)	233	1022	138	240	564	223	111	718	139	279	332	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.98		0.96	1.00		0.97
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	248	1087	147	255	600	237	118	764	148	297	353	68
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	297	1135	498	304	1168	513	441	1069	459	345	1309	566
Arrive On Green	0.09	0.32	0.32	0.09	0.33	0.33	0.06	0.30	0.30	0.13	0.37	0.37
Sat Flow, veh/h	3456	3554	1560	3456	3554	1560	1781	3554	1525	1781	3554	1536
Grp Volume(v), veh/h	248	1087	147	255	600	237	118	764	148	297	353	68
Grp Sat Flow(s),veh/h/ln	1728	1777	1560	1728	1777	1560	1781	1777	1525	1781	1777	1536
Q Serve(g_s), s	9.9	42.0	7.9	10.2	19.1	16.8	6.3	26.8	7.9	15.6	9.8	4.1
Cycle Q Clear(g_c), s	9.9	42.0	7.9	10.2	19.1	16.8	6.3	26.8	7.9	15.6	9.8	4.1
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	297	1135	498	304	1168	513	441	1069	459	345	1309	566
V/C Ratio(X)	0.83	0.96	0.29	0.84	0.51	0.46	0.27	0.71	0.32	0.86	0.27	0.12
Avail Cap(c_a), veh/h	346	1142	501	346	1168	513	588	1069	459	386	1309	566
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	63.0	46.7	22.7	62.9	38.0	37.2	30.6	43.6	21.4	31.3	31.0	29.2
Incr Delay (d2), s/veh	13.6	17.3	0.3	14.5	0.4	0.7	0.2	4.1	1.9	15.7	0.5	0.4
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(50%),veh/ln	4.9	21.2	3.0	5.1	8.5	6.6	2.8	12.4	3.1	8.2	4.3	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.6	64.0	23.0	77.4	38.4	37.9	30.9	47.7	23.3	47.0	31.5	29.7
LnGrp LOS	E	E	C	E	D	D	C	D	C	D	C	C
Approach Vol, veh/h		1482			1092			1030			718	
Approach Delay, s/veh		62.0			47.4			42.2			37.8	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.3	50.7	13.4	57.6	17.0	52.0	22.8	48.1
Change Period (Y+Rc), s	6.0	* 6	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	14.0	* 45	20.0	39.0	14.0	45.0	21.0	38.0
Max Q Clear Time (g_c+I1), s	12.2	44.0	8.3	11.8	11.9	21.1	17.6	28.8
Green Ext Time (p_c), s	0.1	0.7	0.2	2.6	0.1	5.2	0.2	3.9

Intersection Summary	
HCM 6th Ctrl Delay	49.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM Signalized Intersection Capacity Analysis
24: Riverside Dr & SR 134 Ramps/Buena Vista St & SR 134 WB On Ramp

10/27/2021

Movement	WBL2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	NEL
Lane Configurations												
Traffic Volume (vph)	70	292	330	238	128	691	74	115	196	40	351	109
Future Volume (vph)	70	292	330	238	128	691	74	115	196	40	351	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	4.6
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	0.95		1.00	0.91		0.91	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00		1.00	0.99		0.98	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.99		1.00	0.92		0.85	1.00
Flt Protected	0.95	0.95	0.99	1.00	0.95	1.00		0.95	1.00		1.00	0.95
Satd. Flow (prot)	1770	1681	1746	1554	1770	3483		1770	3103		1417	1770
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00		0.95	1.00		1.00	0.95
Satd. Flow (perm)	1770	1770	1770	1554	1770	3483		1770	3103		1417	1770
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	73	304	344	248	133	720	77	120	204	42	366	114
RTOR Reduction (vph)	0	0	0	54	0	4	0	0	0	0	0	0
Lane Group Flow (vph)	73	176	472	194	133	793	0	120	418	0	194	114
Confl. Peds. (#/hr)		3		3	3		1	1			3	3
Turn Type	Prot	Perm	NA	Perm	Split	NA		Split	NA		Perm	Prot
Protected Phases	1		6		8	8		7	7			5
Permitted Phases		6		6							7	
Actuated Green, G (s)	12.7	50.6	50.6	50.6	45.0	45.0		31.0	31.0		31.0	16.0
Effective Green, g (s)	12.7	50.6	50.6	50.6	45.0	45.0		31.0	31.0		31.0	16.0
Actuated g/C Ratio	0.08	0.30	0.30	0.30	0.27	0.27		0.19	0.19		0.19	0.10
Clearance Time (s)	4.6	6.5	6.5	6.5	6.5	6.5		6.5	6.5		6.5	4.6
Vehicle Extension (s)	2.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	2.5
Lane Grp Cap (vph)	134	537	537	471	477	940		329	577		263	169
v/s Ratio Prot	0.04				0.08	c0.23		0.07	0.13			c0.06
v/s Ratio Perm		0.10	0.27	0.12							c0.14	
v/c Ratio	0.54	0.33	0.88	0.41	0.28	0.84		0.36	0.72		0.74	0.67
Uniform Delay, d1	74.2	44.9	55.1	46.2	48.0	57.5		59.3	63.8		64.0	72.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00
Incremental Delay, d2	3.5	0.4	15.4	0.7	0.4	7.2		0.8	4.6		10.6	9.3
Delay (s)	77.8	45.3	70.5	46.9	48.4	64.7		60.1	68.5		74.6	82.1
Level of Service	E	D	E	D	D	E		E	E		E	F
Approach Delay (s)			60.5			62.4			68.7			99.3
Approach LOS			E			E			E			F

Intersection Summary			
HCM 2000 Control Delay	73.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	166.7	Sum of lost time (s)	24.1
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
24: Riverside Dr & SR 134 Ramps/Buena Vista St & SR 134 WB On Ramp

10/27/2021

Movement	NER
Lane Configurations	
Traffic Volume (vph)	911
Future Volume (vph)	911
Ideal Flow (vphpl)	1900
Total Lost time (s)	6.5
Lane Util. Factor	0.88
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	2787
Flt Permitted	1.00
Satd. Flow (perm)	2787
Peak-hour factor, PHF	0.96
Adj. Flow (vph)	949
RTOR Reduction (vph)	0
Lane Group Flow (vph)	949
Confl. Peds. (#/hr)	1
Turn Type	Prot
Protected Phases	2
Permitted Phases	
Actuated Green, G (s)	53.9
Effective Green, g (s)	53.9
Actuated g/C Ratio	0.32
Clearance Time (s)	6.5
Vehicle Extension (s)	3.5
Lane Grp Cap (vph)	901
v/s Ratio Prot	c0.34
v/s Ratio Perm	
v/c Ratio	1.05
Uniform Delay, d1	56.4
Progression Factor	1.00
Incremental Delay, d2	45.0
Delay (s)	101.4
Level of Service	F
Approach Delay (s)	
Approach LOS	

Intersection Summary

HCM Signalized Intersection Capacity Analysis
25: Burbank Blvd & Victory Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑↑	↱	↰↰	↑↑↑	↱	↰↰	↑↑	↱	↰↰	↰↑	↱
Traffic Volume (vph)	148	1263	256	262	1553	601	474	529	238	765	507	152
Future Volume (vph)	148	1263	256	262	1553	601	474	529	238	765	507	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0
Lane Util. Factor	0.97	0.91	1.00	0.97	0.91	1.00	0.97	0.95	1.00	0.86	0.86	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (prot)	3433	5085	1559	3433	5085	1570	3433	3539	1570	3044	3170	1521
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	0.99	1.00
Satd. Flow (perm)	3433	5085	1559	3433	5085	1570	3433	3539	1570	3044	3170	1521
Peak-hour factor, PHF	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Adj. Flow (vph)	149	1276	259	265	1569	607	479	534	240	773	512	154
RTOR Reduction (vph)	0	0	33	0	0	52	0	0	33	0	0	54
Lane Group Flow (vph)	149	1276	226	265	1569	555	479	534	207	634	651	100
Confl. Peds. (#/hr)	2		7	7		2	18		1	1		18
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Split	NA	pm+ov	Split	NA	Perm
Protected Phases	1	6	7	5	2	3	7	7	5	3	3	
Permitted Phases			6			2			7			3
Actuated Green, G (s)	13.2	60.8	96.9	19.1	66.7	115.1	36.1	36.1	55.2	48.4	48.4	48.4
Effective Green, g (s)	13.2	60.8	96.9	19.1	66.7	115.1	36.1	36.1	55.2	48.4	48.4	48.4
Actuated g/C Ratio	0.07	0.32	0.52	0.10	0.36	0.61	0.19	0.19	0.29	0.26	0.26	0.26
Clearance Time (s)	5.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	5.0	6.0	6.0	6.0
Vehicle Extension (s)	2.5	3.0	3.0	2.0	3.0	3.0	3.0	3.0	2.0	3.0	3.0	3.0
Lane Grp Cap (vph)	241	1649	806	349	1809	1014	661	681	462	786	818	392
v/s Ratio Prot	0.04	0.25	0.05	c0.08	c0.31	0.14	0.14	c0.15	0.05	c0.21	0.21	
v/s Ratio Perm			0.09			0.21			0.09			0.07
v/c Ratio	0.62	0.77	0.28	0.76	0.87	0.55	0.72	0.78	0.45	0.81	0.80	0.25
Uniform Delay, d1	84.7	57.1	25.6	81.9	56.2	21.0	71.0	71.9	53.7	65.1	64.9	55.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.0	2.3	0.2	8.2	4.7	0.6	3.9	5.9	0.3	6.1	5.4	0.3
Delay (s)	88.6	59.4	25.8	90.1	60.9	21.6	74.9	77.8	54.0	71.2	70.3	55.5
Level of Service	F	E	C	F	E	C	E	E	D	E	E	E
Approach Delay (s)		56.8			54.3			72.2			69.1	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM 2000 Control Delay	61.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	187.4	Sum of lost time (s)	23.0
Intersection Capacity Utilization	92.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM 6th Signalized Intersection Summary
26: Victory Blvd/Victory Pl & Magnolia Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	172	918	228	156	654	193	236	896	159	287	952	151
Future Volume (veh/h)	172	918	228	156	654	193	236	896	159	287	952	151
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.99	1.00		0.99
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	174	927	230	158	661	195	238	905	161	290	962	153
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	233	610	151	201	746	327	340	1572	693	372	1630	719
Arrive On Green	0.09	0.22	0.22	0.08	0.21	0.21	0.09	0.44	0.44	0.10	0.46	0.46
Sat Flow, veh/h	1781	2811	696	1781	3554	1556	1781	3554	1567	1781	3554	1567
Grp Volume(v), veh/h	174	585	572	158	661	195	238	905	161	290	962	153
Grp Sat Flow(s),veh/h/ln	1781	1777	1730	1781	1777	1556	1781	1777	1567	1781	1777	1567
Q Serve(g_s), s	10.6	30.4	30.4	9.6	25.3	15.9	10.1	26.7	8.9	12.3	28.1	8.2
Cycle Q Clear(g_c), s	10.6	30.4	30.4	9.6	25.3	15.9	10.1	26.7	8.9	12.3	28.1	8.2
Prop In Lane	1.00		0.40	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	386	376	201	746	327	340	1572	693	372	1630	719
V/C Ratio(X)	0.75	1.52	1.52	0.79	0.89	0.60	0.70	0.58	0.23	0.78	0.59	0.21
Avail Cap(c_a), veh/h	389	386	376	370	772	338	551	1572	693	554	1630	719
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	40.7	54.8	54.8	41.4	53.7	49.9	22.3	29.2	24.2	22.7	28.1	22.7
Incr Delay (d2), s/veh	1.8	245.8	247.9	2.6	11.8	2.7	1.0	1.5	0.8	2.1	1.6	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(50%),veh/ln	4.8	39.9	39.1	4.4	12.5	6.4	4.3	11.7	3.5	5.3	12.3	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.6	300.6	302.7	43.9	65.5	52.7	23.3	30.7	25.0	24.8	29.7	23.4
LnGrp LOS	D	F	F	D	E	D	C	C	C	C	C	C
Approach Vol, veh/h		1331			1014			1304			1405	
Approach Delay, s/veh		267.8			59.6			28.7			28.0	
Approach LOS		F			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.0	70.2	16.4	36.4	19.3	67.9	17.4	35.4
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	29.0	34.4	25.0	30.4	29.0	34.4	25.0	30.4
Max Q Clear Time (g_c+I1), s	12.1	30.1	11.6	32.4	14.3	28.7	12.6	27.3
Green Ext Time (p_c), s	0.3	2.6	0.2	0.0	0.4	3.2	0.2	1.5

Intersection Summary	
HCM 6th Ctrl Delay	97.7
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
27: Olive Ave & Victory Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	237	979	43	119	712	208	86	798	173	167	837	256
Future Volume (veh/h)	237	979	43	119	712	208	86	798	173	167	837	256
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.97
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	242	999	44	121	727	212	88	814	177	170	854	261
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	1622	71	282	1533	671	165	864	373	212	988	428
Arrive On Green	0.09	0.47	0.47	0.05	0.43	0.43	0.05	0.24	0.24	0.08	0.28	0.28
Sat Flow, veh/h	1781	3464	153	1781	3554	1555	1781	3554	1532	1781	3554	1539
Grp Volume(v), veh/h	242	512	531	121	727	212	88	814	177	170	854	261
Grp Sat Flow(s),veh/h/ln	1781	1777	1840	1781	1777	1555	1781	1777	1532	1781	1777	1539
Q Serve(g_s), s	10.2	30.2	30.2	5.3	20.5	12.6	5.1	31.5	13.8	9.7	32.0	20.6
Cycle Q Clear(g_c), s	10.2	30.2	30.2	5.3	20.5	12.6	5.1	31.5	13.8	9.7	32.0	20.6
Prop In Lane	1.00		0.08	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	381	832	862	282	1533	671	165	864	373	212	988	428
V/C Ratio(X)	0.64	0.62	0.62	0.43	0.47	0.32	0.53	0.94	0.47	0.80	0.86	0.61
Avail Cap(c_a), veh/h	590	832	862	557	1533	671	318	873	376	304	988	428
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	20.5	27.8	27.8	22.9	28.5	26.2	40.0	52.0	45.3	38.1	48.0	44.0
Incr Delay (d2), s/veh	0.7	3.4	3.3	0.4	1.1	1.2	1.0	17.9	0.9	6.1	8.1	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(50%),veh/ln	4.3	13.6	14.1	2.3	9.0	4.9	2.3	16.2	5.4	4.6	15.3	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.2	31.2	31.1	23.3	29.5	27.5	41.0	69.9	46.3	44.1	56.1	46.5
LnGrp LOS	C	C	C	C	C	C	D	E	D	D	E	D
Approach Vol, veh/h		1285			1060			1079			1285	
Approach Delay, s/veh		29.3			28.4			63.7			52.6	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.9	71.6	11.6	44.9	17.1	66.4	16.4	40.1
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	29.0	36.4	19.0	34.4	29.0	36.4	19.0	34.4
Max Q Clear Time (g_c+I1), s	7.3	32.2	7.1	34.0	12.2	22.5	11.7	33.5
Green Ext Time (p_c), s	0.1	2.5	0.1	0.3	0.3	5.0	0.1	0.6

Intersection Summary			
HCM 6th Ctrl Delay			43.3
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary
28: Alameda Ave & Victory Blvd

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑	↱	↰	↑↑	↱	↰	↑↱		↰↰	↑↱	
Traffic Volume (veh/h)	79	1483	147	121	628	278	131	480	144	399	585	46
Future Volume (veh/h)	79	1483	147	121	628	278	131	480	144	399	585	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	0.99		0.98	1.00		0.99
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	81	1529	152	125	647	287	135	495	148	411	603	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	1713	759	166	1743	772	211	552	164	526	1168	91
Arrive On Green	0.04	0.48	0.48	0.05	0.49	0.49	0.21	0.21	0.21	0.11	0.35	0.35
Sat Flow, veh/h	1781	3554	1574	1781	3554	1574	777	2689	799	3456	3338	260
Grp Volume(v), veh/h	81	1529	152	125	647	287	135	326	317	411	321	329
Grp Sat Flow(s),veh/h/ln	1781	1777	1574	1781	1777	1574	777	1777	1711	1728	1777	1821
Q Serve(g_s), s	3.2	54.8	7.8	4.9	15.9	15.9	23.4	25.0	25.3	12.6	20.0	20.1
Cycle Q Clear(g_c), s	3.2	54.8	7.8	4.9	15.9	15.9	23.4	25.0	25.3	12.6	20.0	20.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.47	1.00		0.14
Lane Grp Cap(c), veh/h	350	1713	759	166	1743	772	211	365	351	526	622	637
V/C Ratio(X)	0.23	0.89	0.20	0.75	0.37	0.37	0.64	0.89	0.90	0.78	0.52	0.52
Avail Cap(c_a), veh/h	405	1713	759	205	1743	772	220	386	372	708	736	754
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	17.6	33.0	20.8	31.4	22.2	22.2	53.5	54.1	54.2	38.7	36.1	36.1
Incr Delay (d2), s/veh	0.1	7.6	0.6	8.5	0.6	1.4	5.8	21.6	23.6	4.0	0.7	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(50%),veh/ln	1.3	25.0	3.0	2.4	6.8	6.2	4.9	13.4	13.2	5.7	8.9	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	40.5	21.4	39.9	22.8	23.6	59.3	75.7	77.9	42.7	36.8	36.8
LnGrp LOS	B	D	C	D	C	C	E	E	E	D	D	D
Approach Vol, veh/h		1762			1059			778			1061	
Approach Delay, s/veh		37.8			25.1			73.7			39.1	
Approach LOS		D			C			E			D	

Timer - Assigned Phs	1	2	3	4		6	7	8
Phs Duration (G+Y+Rc), s	20.2	34.8	11.5	73.5		55.0	10.3	74.7
Change Period (Y+Rc), s	4.6	6.0	4.6	6.0		6.0	4.6	6.0
Max Green Setting (Gmax), s	23.0	30.4	10.0	55.4		58.0	10.0	55.4
Max Q Clear Time (g_c+I1), s	14.6	27.3	6.9	56.8		22.1	5.2	17.9
Green Ext Time (p_c), s	1.0	1.5	0.0	0.0		4.5	0.0	6.4

Intersection Summary	
HCM 6th Ctrl Delay	41.2
HCM 6th LOS	D

HCM 6th Signalized Intersection Summary
29: Burbank Blvd & San Fernando Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↑	↱	↰	↑↑	↱	↰↰	↑↱		↰	↑	↱↱
Traffic Volume (veh/h)	847	657	583	22	417	89	249	371	21	72	173	452
Future Volume (veh/h)	847	657	583	22	417	89	249	371	21	72	173	452
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		1.00	1.00		0.97	1.00		0.98	1.00		0.94
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	864	670	0	22	426	91	254	379	21	73	177	461
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	952	1263		85	684	295	413	953	53	103	384	541
Arrive On Green	0.20	0.36	0.00	0.05	0.19	0.19	0.12	0.28	0.28	0.06	0.21	0.21
Sat Flow, veh/h	3456	3554	1585	1781	3554	1536	3456	3419	189	1781	1870	2633
Grp Volume(v), veh/h	864	670	0	22	426	91	254	196	204	73	177	461
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1536	1728	1777	1831	1781	1870	1317
Q Serve(g_s), s	14.1	12.8	0.0	1.0	9.4	4.4	6.0	7.7	7.7	3.4	7.1	11.2
Cycle Q Clear(g_c), s	14.1	12.8	0.0	1.0	9.4	4.4	6.0	7.7	7.7	3.4	7.1	11.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	952	1263		85	684	295	413	495	510	103	384	541
V/C Ratio(X)	0.91	0.53		0.26	0.62	0.31	0.62	0.40	0.40	0.71	0.46	0.85
Avail Cap(c_a), veh/h	1072	1263		624	1246	538	2422	1246	1283	416	656	923
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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.7	21.9	0.0	39.3	31.7	29.7	35.8	25.0	25.0	39.6	29.9	19.8
Incr Delay (d2), s/veh	9.7	0.5	0.0	1.9	1.1	0.7	3.2	0.6	0.6	3.3	0.6	3.0
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(50%),veh/ln	9.5	5.2	0.0	0.5	4.1	1.6	2.7	3.2	3.4	1.6	3.2	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	22.4	0.0	41.2	32.8	30.4	39.0	25.6	25.7	43.0	30.5	22.8
LnGrp LOS	D	C		D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		1534	A		539			654			711	
Approach Delay, s/veh		32.5			32.8			30.8			26.8	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.9	30.2	23.0	22.5	16.5	23.6	9.1	36.4
Change Period (Y+Rc), s	5.0	6.3	6.0	* 6	6.3	* 6	5.0	6.0
Max Green Setting (Gmax), s	20.0	60.0	20.0	* 30	60.0	* 30	30.0	30.0
Max Q Clear Time (g_c+I1), s	5.4	9.7	16.1	11.4	8.0	13.2	3.0	14.8
Green Ext Time (p_c), s	0.1	3.2	0.9	3.5	2.2	2.3	0.0	4.7

Intersection Summary	
HCM 6th Ctrl Delay	31.0
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Summary
30: Magnolia Blvd & First St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱	↱	↰	↑↑	↱	↰	↑↑	↱	↰	↑↑	↱
Traffic Volume (veh/h)	340	905	374	74	647	107	297	479	147	175	424	266
Future Volume (veh/h)	340	905	374	74	647	107	297	479	147	175	424	266
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		0.99	1.00		0.99
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	358	953	394	78	681	113	313	504	155	184	446	280
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	415	1705	720	269	1497	801	288	730	323	279	730	459
Arrive On Green	0.09	0.46	0.46	0.05	0.42	0.42	0.09	0.21	0.21	0.09	0.21	0.21
Sat Flow, veh/h	1781	3741	1580	1781	3554	1579	1781	3554	1573	1781	3554	1573
Grp Volume(v), veh/h	358	953	394	78	681	113	313	504	155	184	446	280
Grp Sat Flow(s),veh/h/ln	1781	1870	1580	1781	1777	1579	1781	1777	1573	1781	1777	1573
Q Serve(g_s), s	9.0	19.5	19.0	2.5	14.4	4.0	9.0	13.8	9.1	8.6	12.0	16.1
Cycle Q Clear(g_c), s	9.0	19.5	19.0	2.5	14.4	4.0	9.0	13.8	9.1	8.6	12.0	16.1
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	415	1705	720	269	1497	801	288	730	323	279	730	459
V/C Ratio(X)	0.86	0.56	0.55	0.29	0.45	0.14	1.09	0.69	0.48	0.66	0.61	0.61
Avail Cap(c_a), veh/h	415	1705	720	331	1497	801	288	1097	486	279	1097	621
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	23.2	20.9	20.7	16.8	21.8	13.7	37.6	38.6	36.8	30.6	37.9	32.1
Incr Delay (d2), s/veh	16.0	1.3	3.0	0.2	1.0	0.4	78.6	1.2	1.1	4.6	0.8	1.3
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(50%),veh/ln	6.0	8.6	7.4	1.0	6.1	1.5	9.4	6.1	3.6	4.0	5.3	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.2	22.2	23.7	17.0	22.8	14.1	116.2	39.8	37.9	35.2	38.7	33.4
LnGrp LOS	D	C	C	B	C	B	F	D	D	D	D	C
Approach Vol, veh/h		1705			872			972			910	
Approach Delay, s/veh		26.1			21.1			64.1			36.4	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	53.8	13.6	27.6	13.6	50.2	13.6	27.6
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	9.0	33.4	9.0	32.4	9.0	33.4	9.0	32.4
Max Q Clear Time (g_c+I1), s	4.5	21.5	10.6	15.8	11.0	16.4	11.0	18.1
Green Ext Time (p_c), s	0.0	6.3	0.0	3.6	0.0	4.7	0.0	3.5

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

HCM 6th Signalized Intersection Summary
31: Olive Ave & First St

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↑	↱	↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	358	825	249	59	521	142	199	364	74	67	379	141
Future Volume (veh/h)	358	825	249	59	521	142	199	364	74	67	379	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	0.98		0.95	0.97		0.93
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	381	878	265	63	554	151	212	387	79	71	403	150
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	496	1392	419	261	1630	714	296	701	141	239	654	431
Arrive On Green	0.10	0.52	0.52	0.04	0.46	0.46	0.10	0.24	0.24	0.04	0.18	0.18
Sat Flow, veh/h	1781	2679	807	1781	3554	1556	1781	2916	588	1781	3554	1479
Grp Volume(v), veh/h	381	582	561	63	554	151	212	234	232	71	403	150
Grp Sat Flow(s),veh/h/ln	1781	1777	1709	1781	1777	1556	1781	1777	1727	1781	1777	1479
Q Serve(g_s), s	14.0	32.7	32.9	2.6	14.0	8.1	13.3	16.1	16.5	4.5	14.6	11.3
Cycle Q Clear(g_c), s	14.0	32.7	32.9	2.6	14.0	8.1	13.3	16.1	16.5	4.5	14.6	11.3
Prop In Lane	1.00		0.47	1.00		1.00	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	496	923	888	261	1630	714	296	427	415	239	654	431
V/C Ratio(X)	0.77	0.63	0.63	0.24	0.34	0.21	0.72	0.55	0.56	0.30	0.62	0.35
Avail Cap(c_a), veh/h	496	923	888	370	1630	714	296	571	555	340	1142	634
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	20.3	24.0	24.0	20.7	24.3	22.7	40.4	46.5	46.6	43.8	52.6	39.9
Incr Delay (d2), s/veh	6.9	3.3	3.4	0.2	0.6	0.7	7.5	1.3	1.4	0.3	1.1	0.6
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(50%),veh/ln	7.6	14.5	14.0	1.1	6.1	3.2	6.5	7.3	7.3	2.0	6.7	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.2	27.3	27.5	20.9	24.9	23.4	47.9	47.8	48.1	44.0	53.7	40.5
LnGrp LOS	C	C	C	C	C	C	D	D	D	D	D	D
Approach Vol, veh/h		1524			768			678			624	
Approach Delay, s/veh		27.3			24.2			47.9			49.4	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	39.7	19.0	70.2	19.0	31.8	10.5	78.7
Change Period (Y+Rc), s	5.0	6.0	5.0	6.0	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	14.0	45.0	14.0	45.0	14.0	45.0	14.0	45.0
Max Q Clear Time (g_c+I1), s	6.5	18.5	16.0	16.0	15.3	16.6	4.6	34.9
Green Ext Time (p_c), s	0.0	3.6	0.0	5.6	0.0	4.1	0.0	6.0

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
32: Alameda Ave & San Fernando Blvd

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↰	↑↱		↰	↑↱		↰↰	↑↱		↰	↑↑	↱
Traffic Volume (veh/h)	389	942	276	67	517	75	454	647	103	148	521	205
Future Volume (veh/h)	389	942	276	67	517	75	454	647	103	148	521	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.95	1.00		0.96	1.00		0.95
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	414	1002	294	71	550	80	483	688	110	157	554	218
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	987	1242	362	91	676	98	613	759	121	219	742	315
Arrive On Green	0.29	0.46	0.46	0.05	0.22	0.22	0.12	0.25	0.25	0.08	0.21	0.21
Sat Flow, veh/h	3456	2698	787	1781	3093	448	3456	3049	487	1781	3554	1510
Grp Volume(v), veh/h	414	658	638	71	315	315	483	401	397	157	554	218
Grp Sat Flow(s),veh/h/ln	1728	1777	1708	1781	1777	1765	1728	1777	1759	1781	1777	1510
Q Serve(g_s), s	13.6	44.4	45.1	5.5	23.6	23.8	14.9	30.6	30.7	9.6	20.5	9.9
Cycle Q Clear(g_c), s	13.6	44.4	45.1	5.5	23.6	23.8	14.9	30.6	30.7	9.6	20.5	9.9
Prop In Lane	1.00		0.46	1.00		0.25	1.00		0.28	1.00		1.00
Lane Grp Cap(c), veh/h	987	818	786	91	388	385	613	443	438	219	742	315
V/C Ratio(X)	0.42	0.80	0.81	0.78	0.81	0.82	0.79	0.91	0.91	0.72	0.75	0.69
Avail Cap(c_a), veh/h	987	818	786	280	609	605	656	470	465	224	762	324
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	40.6	32.4	32.6	65.7	52.0	52.1	37.5	51.0	51.0	41.3	51.9	14.4
Incr Delay (d2), s/veh	0.2	8.3	8.9	10.4	16.7	17.3	5.7	20.5	21.0	9.6	4.1	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(50%),veh/ln	5.9	20.8	20.4	2.8	12.3	12.4	6.8	16.1	16.1	4.8	9.6	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.8	40.6	41.5	76.1	68.7	69.3	43.3	71.5	72.0	50.9	56.1	20.8
LnGrp LOS	D	D	D	E	E	E	D	E	E	D	E	C
Approach Vol, veh/h		1710			701			1281			929	
Approach Delay, s/veh		41.0			69.7			61.0			46.9	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.2	35.2	46.0	36.6	16.6	40.9	12.1	70.4
Change Period (Y+Rc), s	5.0	6.0	6.0	* 6	5.0	6.0	5.0	6.0
Max Green Setting (Gmax), s	19.0	30.0	21.0	* 48	12.0	37.0	22.0	47.0
Max Q Clear Time (g_c+I1), s	16.9	22.5	15.6	25.8	11.6	32.7	7.5	47.1
Green Ext Time (p_c), s	0.4	3.1	0.6	4.8	0.0	2.2	0.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	52.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
33: Magnolia Blvd & Glenoaks Blvd

10/27/2021

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↑↑↱		↰	↑↑↱		↰	↑↑↱	
Traffic Volume (veh/h)	206	305	230	39	264	50	194	1340	69	94	1087	162
Future Volume (veh/h)	206	305	230	39	264	50	194	1340	69	94	1087	162
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.95	1.00		0.97	1.00		0.94
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	215	318	240	41	275	52	202	1396	72	98	1132	169
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	318	569	459	216	901	167	269	1547	80	215	1313	195
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.45	0.45	0.06	0.43	0.43
Sat Flow, veh/h	1027	1870	1508	840	2965	550	1781	3432	177	1781	3075	457
Grp Volume(v), veh/h	215	318	240	41	163	164	202	721	747	98	652	649
Grp Sat Flow(s),veh/h/ln	1027	1870	1508	840	1777	1738	1781	1777	1832	1781	1777	1755
Q Serve(g_s), s	18.3	12.8	11.9	3.9	6.3	6.5	5.6	33.8	34.1	2.7	29.9	30.2
Cycle Q Clear(g_c), s	24.9	12.8	11.9	16.7	6.3	6.5	5.6	33.8	34.1	2.7	29.9	30.2
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.10	1.00		0.26
Lane Grp Cap(c), veh/h	318	569	459	216	540	528	269	801	825	215	759	749
V/C Ratio(X)	0.68	0.56	0.52	0.19	0.30	0.31	0.75	0.90	0.91	0.46	0.86	0.87
Avail Cap(c_a), veh/h	325	582	469	222	553	541	297	801	825	284	759	749
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	33.6	26.3	25.9	33.3	24.0	24.1	19.5	22.9	22.9	19.8	23.3	23.4
Incr Delay (d2), s/veh	5.4	1.2	1.0	0.4	0.3	0.3	7.8	15.2	15.3	0.6	12.2	12.8
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(50%),veh/ln	4.9	5.7	4.3	0.8	2.6	2.7	2.7	16.5	17.2	1.1	14.3	14.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.0	27.4	26.9	33.7	24.3	24.4	27.3	38.0	38.3	20.4	35.5	36.2
LnGrp LOS	D	C	C	C	C	C	C	D	D	C	D	D
Approach Vol, veh/h		773			368			1670			1399	
Approach Delay, s/veh		30.5			25.4			36.8			34.8	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.1	46.6		33.4	12.2	44.4		33.4
Change Period (Y+Rc), s	4.6	6.0		6.0	4.6	6.0		6.0
Max Green Setting (Gmax), s	9.0	36.4		28.0	9.0	36.4		28.0
Max Q Clear Time (g_c+I1), s	4.7	36.1		18.7	7.6	32.2		26.9
Green Ext Time (p_c), s	0.0	0.3		1.4	0.0	2.9		0.5

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
34: Olive Ave & Glenoaks Blvd

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↱		↰	↑↱		↰	↑↱		↰	↑↱	
Traffic Volume (veh/h)	200	374	175	71	226	70	123	1114	82	92	1047	105
Future Volume (veh/h)	200	374	175	71	226	70	123	1114	82	92	1047	105
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	1.00		0.97	1.00		0.97
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	206	386	180	73	233	72	127	1148	85	95	1079	108
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	540	888	408	392	907	273	207	905	67	188	846	85
Arrive On Green	0.09	0.38	0.38	0.06	0.34	0.34	0.07	0.27	0.27	0.06	0.26	0.26
Sat Flow, veh/h	1781	2351	1080	1781	2679	805	1781	3347	248	1781	3252	325
Grp Volume(v), veh/h	206	290	276	73	152	153	127	609	624	95	589	598
Grp Sat Flow(s),veh/h/ln	1781	1777	1654	1781	1777	1707	1781	1777	1817	1781	1777	1800
Q Serve(g_s), s	6.6	10.9	11.2	2.3	5.6	5.8	4.6	24.3	24.3	3.4	23.4	23.4
Cycle Q Clear(g_c), s	6.6	10.9	11.2	2.3	5.6	5.8	4.6	24.3	24.3	3.4	23.4	23.4
Prop In Lane	1.00		0.65	1.00		0.47	1.00		0.14	1.00		0.18
Lane Grp Cap(c), veh/h	540	671	625	392	602	578	207	481	492	188	462	468
V/C Ratio(X)	0.38	0.43	0.44	0.19	0.25	0.26	0.61	1.27	1.27	0.51	1.28	1.28
Avail Cap(c_a), veh/h	550	671	625	471	602	578	258	481	492	258	462	468
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	16.1	20.8	20.9	17.6	21.5	21.6	24.7	32.8	32.8	25.0	33.3	33.3
Incr Delay (d2), s/veh	0.3	2.0	2.3	0.2	1.0	1.1	2.2	135.7	136.5	1.6	139.8	140.5
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(50%),veh/ln	2.6	4.8	4.6	0.9	2.4	2.5	2.0	28.2	29.0	1.5	27.7	28.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	16.4	22.9	23.2	17.7	22.5	22.7	26.9	168.5	169.3	26.6	173.1	173.8
LnGrp LOS	B	C	C	B	C	C	C	F	F	C	F	F
Approach Vol, veh/h		772			378			1360			1282	
Approach Delay, s/veh		21.3			21.7			155.7			162.6	
Approach LOS		C			C			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	40.0	11.0	29.4	13.1	36.5	10.0	30.3
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	9.0	27.4	9.0	23.4	9.0	27.4	9.0	23.4
Max Q Clear Time (g_c+I1), s	4.3	13.2	6.6	25.4	8.6	7.8	5.4	26.3
Green Ext Time (p_c), s	0.0	4.1	0.0	0.0	0.0	2.3	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	117.3
HCM 6th LOS	F

HCM 6th Signalized Intersection Summary
35: Alameda Ave & Glenoaks Blvd

10/27/2021

	↗	→	↘	↙	←	↖	↖	↑	↗	↘	↓	↙
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑	↱	↰	↱		↰	↑↑↑	↱	↰	↑↑↱	
Traffic Volume (veh/h)	422	343	254	64	219	30	225	1134	47	82	988	190
Future Volume (veh/h)	422	343	254	64	219	30	225	1134	47	82	988	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.95	1.00		0.96	0.99		0.97
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	440	357	265	67	228	31	234	1181	49	85	1029	198
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	377	630	520	87	278	38	298	1978	591	237	1423	273
Arrive On Green	0.21	0.34	0.34	0.05	0.17	0.17	0.10	0.39	0.39	0.05	0.33	0.33
Sat Flow, veh/h	1781	1870	1544	1781	1600	218	1781	5106	1526	1781	4279	822
Grp Volume(v), veh/h	440	357	265	67	0	259	234	1181	49	85	818	409
Grp Sat Flow(s),veh/h/ln	1781	1870	1544	1781	0	1818	1781	1702	1526	1781	1702	1696
Q Serve(g_s), s	25.0	18.5	16.2	4.4	0.0	16.2	9.8	21.8	2.4	3.7	25.0	25.0
Cycle Q Clear(g_c), s	25.0	18.5	16.2	4.4	0.0	16.2	9.8	21.8	2.4	3.7	25.0	25.0
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	377	630	520	87	0	316	298	1978	591	237	1132	564
V/C Ratio(X)	1.17	0.57	0.51	0.77	0.00	0.82	0.78	0.60	0.08	0.36	0.72	0.72
Avail Cap(c_a), veh/h	377	712	588	451	0	769	718	2592	774	605	1440	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	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.6	32.1	31.4	55.6	0.0	47.0	26.0	28.8	22.9	25.1	34.7	34.7
Incr Delay (d2), s/veh	100.5	1.2	1.1	10.1	0.0	7.3	1.7	0.4	0.1	0.3	1.6	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(50%),veh/ln	21.5	8.5	6.2	2.2	0.0	8.0	4.2	8.9	0.9	1.6	10.5	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	147.1	33.3	32.5	65.7	0.0	54.3	27.7	29.3	23.0	25.4	36.3	38.0
LnGrp LOS	F	C	C	E	A	D	C	C	C	C	D	D
Approach Vol, veh/h		1062			326			1464			1312	
Approach Delay, s/veh		80.3			56.6			28.8			36.1	
Approach LOS		F			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	45.8	16.7	45.3	29.6	26.6	10.2	51.8
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	29.9	45.0	40.0	50.0	25.0	50.0	30.0	60.0
Max Q Clear Time (g_c+I1), s	6.4	20.5	11.8	27.0	27.0	18.2	5.7	23.8
Green Ext Time (p_c), s	0.1	4.8	0.3	12.3	0.0	2.3	0.1	15.6

Intersection Summary	
HCM 6th Ctrl Delay	46.4
HCM 6th LOS	D

Appendix F

Hazardous Materials Sites

DTSC Envirostor Database

SITE NAMES	ADDRESS	CITY	STATUS	STATUS DATE	SITE TYPE - ENVIROSTOR	LEAD AGENCY
AFP #14		Burbank	Inactive - Needs Evaluation	7/1/2005	Military Evaluation	SMBRP
AFP #14, Storage Annex		Los Angeles	Inactive - Needs Evaluation	7/1/2005	Military Evaluation	SMBRP
A-H Plating, Inc.	1837 Victory Place	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
All Metals Processing Co., Inc.	264 W. Spazier Avenue	Burbank	Refer: Other Agency	7/2/2014	Tiered Permit	US EPA
Alumtreat Inc	2905 Winoma Avenue	Burbank	Certified O&M - Land Use Restrictions Only	9/19/1997	Corrective Action	WM
Brass Production Company	3059-3063 North California Street	Burbank	No Further Action	10/25/1994	Historical	NONE SPECIFIED
Burbank Transit Center Southern Pacific	201 N Front St	Burbank	Active	4/30/2014	Corrective Action	WM
Circuit Craft Company	205 South Flower Street	Burbank	Refer: Other Agency	8/31/1995	Historical	NONE SPECIFIED
Fiber Resin Corp Michigan	170 W. Providencia Avenue	Burbank	No Further Action	2/1/1995	Historical	NONE SPECIFIED
Former Dynamic Plating Company Site	1102 West Isabel Street	Burbank	Active	1/31/2007	State Response	SMBRP
Haskel Inc	100 East Graham Place	Burbank	Refer: RWQCB	12/12/1996	Historical	RWQCB 4 - Los Angeles
Hughey & Phillips Inc	3050 California Street	Burbank	No Further Action	2/2/1995	Historical	HWMP
J&M Anodizing, Inc.	525 S. Flower Street	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Janco Corp.	3111 Winona Avenue	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Lockheed Aeronautical Systems Co.	2555 N. Hollywood Way	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Lockheed Air Terminal	2627 North Hollywood Way	Burbank	Refer: RWQCB	5/12/1995	Historical	NONE SPECIFIED
Lockheed Air Termnal		Burbank	Inactive - Needs Evaluation	7/1/2005	Military Evaluation	SMBRP
Lockheed Aircraft Corporation	2555 North Hollywood Way	Burbank	Refer: RWQCB	6/1/1995	Historical	NONE SPECIFIED
Lockheed Corp./Env Systems & Tech	2550 N. Hollywood Way #305	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Lockheed Martin Corporation	1705 Victory Pl	Burbank	Refer: RWQCB	1/1/2008	Corrective Action	RWQCB 4 - Los Angeles
Lockheed-California		Burbank	Inactive - Needs Evaluation	7/1/2005	Military Evaluation	SMBRP
Magna Plating Co., Inc.	3063 N. California Street	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Magnolia Housing Project		Burbank	Inactive - Needs Evaluation	7/1/2005	Military Evaluation	SMBRP
Magnolia Power Plant	164 West Magnolia Blvd.	Burbank	No Further Action	6/5/2003	Voluntary Cleanup	HWMP
Mel Bernie & Co., Inc.	3000 Empire Avenue	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Menasco Manufacturing		Burbank	Inactive - Needs Evaluation	7/1/2005	Military Evaluation	SMBRP
Ovrom Park And School	601 South San Fernando Boulvard	Burbank	Certified	6/25/2004	School Cleanup	SMBRP
Pac Aircraft Engineering Center	3000 Clybourn Avenue	Burbank	No Further Action	10/25/1994	Evaluation	SMBRP
Pacific Airmotive	2940 North Hollywood Way	Burbank	Refer: RWQCB	8/15/1995	Historical	NONE SPECIFIED
Pacific Airmotive	217 South Front Street	Burbank	Refer: Other Agency	2/1/1995	Historical	NONE SPECIFIED
Price Club #415	10950 Sherman Way	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Process Control	2520 N. Ontario Street #D	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Qualex, Inc. #461	211 S. Lake Street	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Rail Chemical Division	201 Front Street	Burbank	Refer: RCRA	4/14/1995	Historical	NONE SPECIFIED
Steve'S Plating Corp.	3111 N. San Fernando Boulevard	Burbank	Refer: Other Agency	NONE	Tiered Permit	NONE SPECIFIED
Tech Graphics, Inc.(Former)	315 S. Flower St.	Burbank	Refer: 1248 Local Agency	3/16/2004	Evaluation	NONE SPECIFIED
Vega Aircraft		Burbank	Inactive - Needs Evaluation	7/1/2005	Military Evaluation	SMBRP
Vega Aircraft		Burbank	Inactive - Needs Evaluation	7/1/2005	Military Evaluation	SMBRP
West LA Area Station Hosp		Los Angeles	Inactive - Needs Evaluation	7/1/2005	Military Evaluation	SMBRP
Western Pacific Circuits	2033 North Lincoln	Burbank	Refer: Other Agency	10/25/1994	Historical	NONE SPECIFIED

SWRCB - Geotracker Database

BUSINESS NAME	STREET NUM	STREET NAME	CITY	CASE_TYPE	STATUS	STATUS_DAT	LEAD_AGENC
Carter Plating Inc		1842 N Keystone St.	Burbank	Non-Case Information	Pending Review	9/23/2019	LOS ANGELES RWQCB (REGION 4)
Nasmyth Tmf, Inc. (Burbank Facility)		3401 Pacific Ave	Burbank	Non-Case Information	Pending Review	9/23/2019	LOS ANGELES RWQCB (REGION 4)
Process Control Laboratory		2520 N Ontario St Bldg D	Burbank	Non-Case Information	Pending Review	9/23/2019	LOS ANGELES RWQCB (REGION 4)
K L Anodizing Corporation		1200 S Victory Blvd	Burbank	Non-Case Information	Pending Review	9/23/2019	LOS ANGELES RWQCB (REGION 4)
BOB HOPE	2627	Hollywood Way	Burbank	Non-Case Information	Pending Review	3/11/2019	LOS ANGELES RWQCB (REGION 4)
Connell Processing Inc		3080-3094 N Avon St	Burbank	Non-Case Information	Pending Review	9/23/2019	LOS ANGELES RWQCB (REGION 4)
Crane Co	3000	WINONA AVE	BURBANK	Cleanup Program Site	Open - Verification Monitoring	1/1/1998	LOS ANGELES RWQCB (REGION 4)
LOCKHEED A-1 EAST	3401	W. EMPIRE AVE.	BURBANK	Cleanup Program Site	Open - Site Assessment	7/17/1996	LOS ANGELES RWQCB (REGION 4)
LOCKHEED A-1, B85, LOTS 16,16A	3220	W. THORTON	BURBANK	Cleanup Program Site	Open - Site Assessment	1/3/1990	LOS ANGELES RWQCB (REGION 4)
CARTER PLATING	1842	N. KEYSTONE ST.	BURBANK	Cleanup Program Site	Open - Site Assessment	9/28/2005	LOS ANGELES RWQCB (REGION 4)
STAINLESS STEEL PRODUCTS INC.	2980	N. SAN FERNANDO BLVD.	BURBANK	Cleanup Program Site	Open - Site Assessment	9/21/2012	LOS ANGELES RWQCB (REGION 4)
Technical Metal Finishing	3401	Pacific Avenue	Burbank	Cleanup Program Site	Open - Site Assessment	6/25/2018	LOS ANGELES RWQCB (REGION 4)
A H PLATING, INC.	1837	VICTORY PL.	BURBANK	Cleanup Program Site	Open - Site Assessment	5/9/2018	LOS ANGELES RWQCB (REGION 4)
MAGNA PLATING CO.	3063	N. CALIFORNIA ST.	BURBANK	Cleanup Program Site	Open - Site Assessment	9/29/2005	LOS ANGELES RWQCB (REGION 4)
Pacific Airmotive Corporation	2960	North Hollywood Way	Burbank	Cleanup Program Site	Open - Site Assessment	1/27/2015	LOS ANGELES RWQCB (REGION 4)
COMMERCIAL INSPECTION SERVICES	156	W. PROVIDENCIA AVE.	BURBANK	Cleanup Program Site	Open - Site Assessment	3/11/2013	LOS ANGELES RWQCB (REGION 4)
Hollywood Burbank Airport Replacement Terminal	2801	North Hollywood Way	Burbank	Cleanup Program Site	Open - Site Assessment	7/20/2016	LOS ANGELES RWQCB (REGION 4)
FORD LEASING DEVELOPMENT COMPANY (FORMER ZERO CORP)	777	FRONT STREET	BURBANK	Cleanup Program Site	Open - Remediation	11/3/2020	LOS ANGELES RWQCB (REGION 4)
LOCKHEED PLANT B6	2801	N. HOLLYWOOD WAY.	BURBANK	Cleanup Program Site	Open - Remediation	10/31/1996	LOS ANGELES RWQCB (REGION 4)
LOCKHEED PLANT A1-SOUTH	2311	N. HOLLYWOOD WAY.	BURBANK	Cleanup Program Site	Open - Remediation	5/24/1995	LOS ANGELES RWQCB (REGION 4)
HOME DEPOT - ITT AEROSPACE CONTROLS-DIV.	1200	SOUTH FLOWER STREET	BURBANK	Cleanup Program Site	Open - Remediation	7/13/2009	LOS ANGELES RWQCB (REGION 4)
FORMER AVIALL SERVICES INC.	3111	N. KENWOOD ST.	BURBANK	Cleanup Program Site	Open - Remediation	3/25/1996	LOS ANGELES RWQCB (REGION 4)
PACIFIC AIRMOTIVE CORPORATION	2940/2840	NORTH HOLLYWOOD WY	BURBANK	Cleanup Program Site	Open - Remediation	5/31/1999	LOS ANGELES RWQCB (REGION 4)
BURBANK LANDFILL	1600	Lockheed View	BURBANK	Land Disposal Site	Open - Operating	5/31/2016	LOS ANGELES RWQCB (REGION 4)
BURBANK STEAM PLANT	164	W. MAGNOLIA BLVD.	BURBANK	Cleanup Program Site	Open - Inactive	1/28/2016	LOS ANGELES RWQCB (REGION 4)
ALL METALS PROCESSING CO. INC.	264	W. SPAZIER AVE.	BURBANK	Cleanup Program Site	Open - Inactive	11/3/2014	LOS ANGELES RWQCB (REGION 4)
5 WEST OLIVE AVENUE			BURBANK	Cleanup Program Site	Open - Inactive	1/1/1965	LOS ANGELES RWQCB (REGION 4)
STEVE'S PLATING CORP.	3111	N. SAN FERNANDO BLVD.	BURBANK	Cleanup Program Site	Open - Inactive	1/28/2016	LOS ANGELES RWQCB (REGION 4)
FORMER TWISS HEATING & TREATING	2503	NORTH ONTARIO BLVD.	BURBANK	Cleanup Program Site	Open - Inactive	1/1/1965	LOS ANGELES RWQCB (REGION 4)
SUNSET CANYON DEBRIS AREA		1100 - 1500 Country Club Drive	BURBANK	Land Disposal Site	Open - Inactive	8/18/1975	LOS ANGELES RWQCB (REGION 4)
ACME AUTOWORK	738	N. VICTORY BLVD.	BURBANK	Cleanup Program Site	Open - Inactive	10/29/2014	LOS ANGELES RWQCB (REGION 4)
KAHR BEARING-SARGENT/FLETCHER	3010	N. SAN FERNANDO BLVD.	BURBANK	Cleanup Program Site	Open - Inactive	10/29/2014	LOS ANGELES RWQCB (REGION 4)
INTERNATIONAL ELECTRONIC RESEARCH CORPORATION (IERC)	135	W. MAGNOLIA BLVD.	BURBANK	Cleanup Program Site	Open - Inactive	9/29/2017	LOS ANGELES RWQCB (REGION 4)
SIERRACIN-HARRISON	3020	EMPIRE AVE.	BURBANK	Cleanup Program Site	Open - Inactive	10/29/2014	LOS ANGELES RWQCB (REGION 4)
INTERSTATE BRANDS CORP.	10	E. LINDEN AVE.	BURBANK	Cleanup Program Site	Open - Inactive	11/3/2014	LOS ANGELES RWQCB (REGION 4)
ECOLA SERVICES	1207	ISABEL ST.	BURBANK	Cleanup Program Site	Open - Inactive	11/3/2014	DEPARTMENT OF TOXIC SUBSTANCES CONTROL
J & M ANODIZING INC.	525	SOUTH FLOWER STREET	BURBANK	Cleanup Program Site	Open - Inactive	2/3/2016	LOS ANGELES RWQCB (REGION 4)
BET	811	S. SAN FERNANDO BLVD.	BURBANK	Cleanup Program Site	Open - Inactive	11/3/2014	LOS ANGELES RWQCB (REGION 4)
LOCKHEED PLANT A-1 NORTH	2555	N. HOLLYWOOD WAY.	BURBANK	Cleanup Program Site	Open - Eligible for Closure	9/27/2016	LOS ANGELES RWQCB (REGION 4)
KEYSTON BROTHERS	1100	Scott Rd.	Burbank	Cleanup Program Site	Open - Eligible for Closure	1/1/1985	LOS ANGELES RWQCB (REGION 4)
VICTORY SILK SCREEN PROCESSING	2701	W. Burbank Blvd.	Burbank	Cleanup Program Site	Open - Eligible for Closure	1/1/1985	LOS ANGELES RWQCB (REGION 4)
ALAMEDA DRY CLEANERS	940	W. ALAMEDA AVE.	BURBANK	Cleanup Program Site	Open - Eligible for Closure	5/19/2021	LOS ANGELES RWQCB (REGION 4)
MAGNOLIA CAR WASH	910	MAGNOLIA BLVD W	BURBANK	LUST Cleanup Site	Open - Eligible for Closure	5/14/2021	LOS ANGELES RWQCB (REGION 4)
LOCKHEED PLANT B1	1705	VICTORY PL.	BURBANK	Cleanup Program Site	Open - Assessment & Interim Remec	1/1/2011	LOS ANGELES RWQCB (REGION 4)
FORMER MENASCO AEROSPACE	100	East Cedar Avenue	BURBANK	Cleanup Program Site	Open - Assessment & Interim Remec	1/1/1965	LOS ANGELES RWQCB (REGION 4)
Former Fiber Resin Corp.	170	W. Providencia Avenue	Burbank	Non-Case Information	Informational Item	10/24/2018	
Former Pacific Airmotive Corporation	3003	North Hollywood Way	Burbank	Non-Case Information	Informational Item	2/11/2016	LOS ANGELES RWQCB (REGION 4)
SHELL SERVICE STATION	2501	VICTORY BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	9/26/1996	LOS ANGELES RWQCB (REGION 4)
WORLD OIL #12	3805	OLIVE AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/28/2003	LOS ANGELES RWQCB (REGION 4)
CITY OF BURBANK ENVIRONMENTAL	500	S. FLOWER ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
JOSEFF PRECISION CASTINGS	129	E. PROVIDENCIA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	3/2/2015	LOS ANGELES RWQCB (REGION 4)
GILDERFLUKE & CO.	205	S. FLOWER ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
INTERVALVE	1835	N. Keystone St.	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1988	LOS ANGELES RWQCB (REGION 4)
KLEEN-LINE CORP	1060	N. Lake St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/14/1989	LOS ANGELES RWQCB (REGION 4)
JACKS AUTO BODY INC.	2821	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/8/1988	LOS ANGELES RWQCB (REGION 4)
G.W. BANDY INCORPORATED	3420	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/12/1988	LOS ANGELES RWQCB (REGION 4)
D.K. JONES	1853	Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1988	LOS ANGELES RWQCB (REGION 4)
PACIFIC AERO SUPPLY CORP.	1630	Wilson Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
LANGLEY'S CUSTOM CABINETS	2823	Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	12/8/1987	LOS ANGELES RWQCB (REGION 4)
PURIFIED DOWN PRODUCTS	2815	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/8/1988	LOS ANGELES RWQCB (REGION 4)
INTERTEK METALLURGICAL LAB	1023	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	2/21/1995	LOS ANGELES RWQCB (REGION 4)
FILM-KOTE INC.	4114	Vanowen St.	Burbank	Cleanup Program Site	Completed - Case Closed	10/9/1990	LOS ANGELES RWQCB (REGION 4)
DWYER MANUFACTURING CO.	3329	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/8/1988	LOS ANGELES RWQCB (REGION 4)
JEAN'S CLEANERS AND TAILORS	2903	N. Glenoaks Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/31/1994	LOS ANGELES RWQCB (REGION 4)
PACAERO	2810	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/12/1988	LOS ANGELES RWQCB (REGION 4)
GLOBAL CONSUMER SERVICES, INC.	3607	W. Pacific Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/4/1990	LOS ANGELES RWQCB (REGION 4)
MATTHEWS STUDIO EQUIPMENT, INC.	2405	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1988	LOS ANGELES RWQCB (REGION 4)
CITY OF BURBANK FIRE STA. 13	2244	Buena Vista	Burbank	Cleanup Program Site	Completed - Case Closed	6/30/1988	LOS ANGELES RWQCB (REGION 4)
BELAS FOREIGN CAR REPAIR	2525	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/30/1988	LOS ANGELES RWQCB (REGION 4)
DYNATROL NATIONAL CORPORATION	2937	N. Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/26/1988	LOS ANGELES RWQCB (REGION 4)
GERHARDT GEAR COMPANY, INC.	3060	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/18/1988	LOS ANGELES RWQCB (REGION 4)
A.J. LEVIN CO.	3108	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	1/18/1990	LOS ANGELES RWQCB (REGION 4)
PACIFIC DESIGN COMPANY	2530	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/6/1987	LOS ANGELES RWQCB (REGION 4)
ARCO #1274	800	HOLLYWOOD WAY N	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/22/1990	LOS ANGELES COUNTY
UNITED #14	2500	MAGNOLIA BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	8/26/2015	LOS ANGELES RWQCB (REGION 4)
UNOCAL #4188	2128	GLENOAKS BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
BFIC AUTO CENTER	1617	WEST MAGNOLIA BOULEVARD	BURBANK	Cleanup Program Site	Completed - Case Closed	6/11/2013	LOS ANGELES RWQCB (REGION 4)
JOHN'S MOBIL	2501	MAGNOLIA AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	2/9/1995	BURBANK, CITY OF
MOBIL GAS STATION	2501	OLIVE AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/30/1995	LOS ANGELES RWQCB (REGION 4)
BUILDIT ENGINEERING	3074	N. LIMA ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	9/9/2005	LOS ANGELES RWQCB (REGION 4)
BURMAHTECH SERV.	700	S. FLOWER ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
ALLIED SIGNAL AEROSPACE CO.	117	E. PROVIDENCIA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	2/10/1997	LOS ANGELES RWQCB (REGION 4)
RYAN HERCO PRODUCTS CORP.	2449	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/17/1987	LOS ANGELES RWQCB (REGION 4)
PACIFIC AIR LOGISTICS, INC.	2823	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
BURBANK YAMAHA	1801	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/6/1989	LOS ANGELES RWQCB (REGION 4)
THOUGHT FACTORY	3103	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	1/18/1990	LOS ANGELES RWQCB (REGION 4)
STUDIO STAR MOBIL	3020	OLIVE AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	7/12/2007	LOS ANGELES RWQCB (REGION 4)
J.T. SUPPLIES INCORPORATED	2526	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/17/1987	LOS ANGELES RWQCB (REGION 4)
PINS UNLIMITED INC.	2720	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/8/1988	LOS ANGELES RWQCB (REGION 4)
UNITED CURRIER INCORPORATED	3220	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/10/1987	LOS ANGELES RWQCB (REGION 4)
HANNA CAR WASH SYSTEMS	3210	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	7/3/1992	LOS ANGELES RWQCB (REGION 4)
ESTRADA HARDWARE CO., INC.	3110	Damon Way	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1990	LOS ANGELES RWQCB (REGION 4)
B & I FRAME & AXLE SERVICE	2713	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/10/1989	LOS ANGELES RWQCB (REGION 4)
ARA SERVICES-MAGAZINE	2950	N. Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	6/26/1995	LOS ANGELES RWQCB (REGION 4)
DAVIS MACHINING CO.	3216	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	9/8/1997	LOS ANGELES RWQCB (REGION 4)
MIDAS MUFFLER SHOP	3514	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/21/1991	LOS ANGELES RWQCB (REGION 4)
SALERNO AUTO BODY	2814	N. San Fernando Blvd. Suite B	Burbank	Cleanup Program Site	Completed - Case Closed	9/9/1991	LOS ANGELES RWQCB (REGION 4)
FLANIGAN PRINTERS, INC.	2101	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
PRECISION AUTO CARE	1411	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/8/1989	LOS ANGELES RWQCB (REGION 4)
DIX INDUSTRIES	2521	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/10/1989	LOS ANGELES RWQCB (REGION 4)

KENS RAPID LUBE	1417	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/8/1989	LOS ANGELES RWQCB (REGION 4)
DONALD M. DAVIS & COMPANY	2920	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/31/1994	LOS ANGELES RWQCB (REGION 4)
WRIGHT PLASTIC PRODUCTS	100	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1990	LOS ANGELES RWQCB (REGION 4)
STUDIO IMAGE	3110	Clybourn Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	8/15/1990	LOS ANGELES RWQCB (REGION 4)
MULLER AUTO BODY	1617	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
FILM CONVERTOR CO. OF AMERICA	10	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
BURBANK PUB WKS YARD	500	FLOWER ST., SOUTH	BURBANK	LUST Cleanup Site	Completed - Case Closed	4/25/2007	BURBANK, CITY OF
SUN ART PLATING CO.	1021	ISABEL ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	10/7/2005	LOS ANGELES RWQCB (REGION 4)
WORLD OIL #25	2417	SAN FERNANDO BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	6/26/2006	LOS ANGELES RWQCB (REGION 4)
ANGEL'S AUTO BODY	603	S. VICTORY BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
SHELL SERVICE STATION	550	HOLLYWOOD WAY N.	BURBANK	LUST Cleanup Site	Completed - Case Closed	6/24/2009	LOS ANGELES RWQCB (REGION 4)
AEROQUIP FACILITY (FORMER)	3015	WINONA AVE	BURBANK	LUST Cleanup Site	Completed - Case Closed	8/30/1996	LOS ANGELES RWQCB (REGION 4)
SEVAN GAS STATION	1638	SAN FERNANDO BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	3/17/2006	LOS ANGELES RWQCB (REGION 4)
HYRAIL	415	N. FRONT ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
R.C. MERCER FILM PATCH	106	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
MAX ERB INSTRUMENT COMPANY	2112	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/6/1989	LOS ANGELES RWQCB (REGION 4)
INDUSTRIAL METAL SUPPLY	3303	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
TRANS BOX	3318	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/10/1987	LOS ANGELES RWQCB (REGION 4)
CADAM	2919	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1988	LOS ANGELES RWQCB (REGION 4)
KEYSTON BROTHERS	1100	Scott Rd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
ALL-PHASE ELECTRICAL SUPPLY CO.	2101	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
AMERICAN HAKKO PRODUCTS	3086	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/11/1988	LOS ANGELES RWQCB (REGION 4)
A & S WROUGHT IRON CO.	2305	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
DELTRON ENGINEERING INC.	2800	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
ACCRATRONICS SEALS CORP.	2211	Kenmere Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	7/19/1996	LOS ANGELES RWQCB (REGION 4)
BURBANK FIRE DEPT. #4	2305	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
OHARA PUBLICATIONS, INC.	1813	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
BURBANK HIGH SCHOOL AUTO SHOP	902	N. 003rd St.	Burbank	Cleanup Program Site	Completed - Case Closed	8/9/1990	LOS ANGELES RWQCB (REGION 4)
HARRY HECHTER CO. INC.	2515	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/18/1987	LOS ANGELES RWQCB (REGION 4)
AERO BELLOWS MFG. INC.	2113	Kenmere Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
PACIFIC SPINNING & DRAWING	3216	Vanowen St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/13/1990	LOS ANGELES RWQCB (REGION 4)
CHEVRON #9-0839	2650	HOLLYWOOD WY N	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
ARC LITHO	110	E. VERDUGO AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
CRANE COMPANY	3000	WINONA AVE	BURBANK	Cleanup Program Site	Completed - Case Closed	3/30/2005	LOS ANGELES RWQCB (REGION 4)
CAL. INSULATED WIRE & CABLE	3050	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1988	LOS ANGELES RWQCB (REGION 4)
SIMU-SYSTEMS TECHNOLOGIES CO.	2115	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
BURBANK MOTOR WORKS	2208	Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
JOHN FLUKE MFG.	2020	Lincoln Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/5/1988	LOS ANGELES RWQCB (REGION 4)
FIDELITY MFG. CO. INC.	3120	Damon Way	Burbank	Cleanup Program Site	Completed - Case Closed	8/15/1990	LOS ANGELES RWQCB (REGION 4)
1928 JEWELRY COMPANY	1000	N. LAKE ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
JAMES G. BOONE CO.	2100	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1988	LOS ANGELES RWQCB (REGION 4)
N. HOLLYWOOD PRINTING	3915	Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/18/1989	LOS ANGELES RWQCB (REGION 4)
RHR ENTERPRISES	2721	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/6/1990	LOS ANGELES RWQCB (REGION 4)
BROADWAY SASH & DOOR CO.	3234	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
HASKEL, INC.	100	E. GRAHAM PL.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
OROAMERICA	443	N. VARNEY ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
ANDREW JERGEN	99	W. VERDUGO AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
NBC-FIELD SHOP	3000	ALAMEDA AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/28/2003	LOS ANGELES RWQCB (REGION 4)
Ikea Property Site	725 and 805-807	South San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/13/2018	LOS ANGELES RWQCB (REGION 4)
QUEEN CITY SHELL INC.	2801	SAN FERNANDO BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
CAMELOT PRESS	2815	LIMA ST N	BURBANK	LUST Cleanup Site	Completed - Case Closed	12/27/1996	LOS ANGELES RWQCB (REGION 4)
NETWORK ART SERVICE	630	S. MARIPOSA ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
Align-Rite International / Photronics Inc.	2422-2428	North Ontario Street	Burbank	Cleanup Program Site	Completed - Case Closed	11/27/2013	LOS ANGELES RWQCB (REGION 4)
THOMSON AUTOMOTIVE	2300	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
WARNER BROS. STUDIO FAC.	4000	WARNER BLVD.	BURBANK	LUST Cleanup Site	Completed - Case Closed	7/22/2009	LOS ANGELES RWQCB (REGION 4)
JAY DEE AIRCRAFT SUPPLY	2917	THORNTON AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/19/2014	LOS ANGELES RWQCB (REGION 4)
WENDELIGHTING	2445	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/3/1987	LOS ANGELES RWQCB (REGION 4)
CALIFORNIA AUTO WORKS	3510	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/18/1989	LOS ANGELES RWQCB (REGION 4)
CRYSTAL LIKE PLASTIC	2547	N. Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/7/1988	LOS ANGELES RWQCB (REGION 4)
NEW RENAISSANCE RECORDS	2130	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
MICRO FORM PRECISION	2317	San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
THE DISNEY STORE, INC.	1919	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	12/6/1990	LOS ANGELES RWQCB (REGION 4)
A & M ENGINEERING	2935	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/28/1988	LOS ANGELES RWQCB (REGION 4)
NORMAN ENTERPRISES	2621	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
CIRCLE WELD. MFG. CO. INC.	2609	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
UNIQUE TRADING COMPANY	2619	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/6/1987	LOS ANGELES RWQCB (REGION 4)
HOWMEDICA	4535	Valerio St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/27/1990	LOS ANGELES RWQCB (REGION 4)
PACIFIC BELL	3001	Thornton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/10/1987	LOS ANGELES RWQCB (REGION 4)
GERALD L. CRAWFORD	3031	Thornton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	8/7/1995	LOS ANGELES RWQCB (REGION 4)
CLASSIC CLEANERS & SHOE REPAIR	1034	W. Alameda	Burbank	Cleanup Program Site	Completed - Case Closed	9/13/1994	LOS ANGELES RWQCB (REGION 4)
BURBANK METAL SUPPLY INC.	2506	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
JACK & GARY AUTO CENTER	2523	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/10/1989	LOS ANGELES RWQCB (REGION 4)
MEDICAL EQUIPMENT SUPPLY, INC.	3041	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/18/1988	LOS ANGELES RWQCB (REGION 4)
SHADES OF LIGHT	2980	N. ONTARIO ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
NBC STUDIOS	3000	W. ALAMEDA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	1/14/2019	LOS ANGELES RWQCB (REGION 4)
TD QUILTING MACHINERY	3640	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	1/18/1990	LOS ANGELES RWQCB (REGION 4)
CHEVRON #9-5538	923	VICTORY BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	8/29/1997	BURBANK, CITY OF
Avibank Manufacturing	210	South Victory Boulevard	Burbank	Cleanup Program Site	Completed - Case Closed	12/26/2018	LOS ANGELES RWQCB (REGION 4)
GALSWORTHY STUDIOS	4126	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1990	LOS ANGELES RWQCB (REGION 4)
UNOCAL #1188	3701	MAGNOLIA BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	1/12/2005	LOS ANGELES RWQCB (REGION 4)
PRD INDUSTRIES	2121	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
BURBANK WATER SKI COMPANY	1861	Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	5/13/1988	LOS ANGELES RWQCB (REGION 4)
SAFETY SHOP INCORPORATED	3007	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/18/1989	LOS ANGELES RWQCB (REGION 4)
ELECTRICAL ADVERTISING INC.	2545	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/18/1987	LOS ANGELES RWQCB (REGION 4)
L.H. METAL SPINNING INC.	3098	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/2/1997	LOS ANGELES RWQCB (REGION 4)
SCREENLAND STUDIOS	3800	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1990	LOS ANGELES RWQCB (REGION 4)
ZEPCO	101	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
MOBIL #17-LYY	141	ALAMEDA AVE E	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/26/1997	BURBANK, CITY OF
PHOTO STOP	1121	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
BOB'S AUTOMOTIVE	2716	N. California	Burbank	Cleanup Program Site	Completed - Case Closed	12/27/1996	LOS ANGELES RWQCB (REGION 4)
MID VALLEY ANODIZING	3075	N. CALIFORNIA ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	11/3/2015	LOS ANGELES RWQCB (REGION 4)
PSI PRODUCTS	3073	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/26/1988	LOS ANGELES RWQCB (REGION 4)
WALLEN GREEN COLOR LAB.	4200	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/28/1992	LOS ANGELES RWQCB (REGION 4)
CAL-LEAF HEALTH PRODUCTS, INC.	1840	Valpreda St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
YCM	2312	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
AL'S AUTOMOTIVE CARE CENTER	4012	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	12/27/1996	LOS ANGELES RWQCB (REGION 4)
MEDIA AVIATION	3000	N. CLYBOURN AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
METICULOUS PRODUCTIONS	3115	W. Olive Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1995	LOS ANGELES RWQCB (REGION 4)
COPY-R OFFICE SYSTEMS	4540	Chermak St.	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1990	LOS ANGELES RWQCB (REGION 4)
NORTH LAKE STAGE	1011	N. Lake St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/27/1996	LOS ANGELES RWQCB (REGION 4)
ALWAYS BETTER CLOSETS	2134	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)

K.L.M. WELDING INC.	2113	Kenmere Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
WORTHINGTON FOUNDRY	2508	N. Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/17/1987	LOS ANGELES RWQCB (REGION 4)
BOBBY'S V.W. SERVICE	1525	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
RYAN HERCO	2509	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	3/16/1988	LOS ANGELES RWQCB (REGION 4)
MEISSNER MFG. CO. INC.	3750	Cohassett St.	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1990	LOS ANGELES RWQCB (REGION 4)
GENERAL MOTORS TRAINING CENTER	1105	RIVERSIDE DR.	BURBANK	Cleanup Program Site	Completed - Case Closed	8/25/1995	LOS ANGELES RWQCB (REGION 4)
CITY OF BURBANK FIRE #15	1420	VERDUGO AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/16/2011	BURBANK, CITY OF
RICH CRAFT	2817	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1988	LOS ANGELES RWQCB (REGION 4)
L & M BLACK OXIDE CO. INC.	1019	VICTORY PL.	BURBANK	Cleanup Program Site	Completed - Case Closed	10/29/2014	LOS ANGELES RWQCB (REGION 4)
MARTINO'S BAKERY, INC.	901	W. ALAMEDA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	3/2/2015	LOS ANGELES RWQCB (REGION 4)
UNOCAL #0881	900	BURBANK BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	6/20/1994	LOS ANGELES RWQCB (REGION 4)
SOUND TRAX STUDIOS	2815	W. BURBANK BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/19/2014	LOS ANGELES RWQCB (REGION 4)
DEVAL WOOD PRODUCTS, INC.	2900	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/26/1988	LOS ANGELES RWQCB (REGION 4)
WILSON'S METAL EXCHANGE INC.	1062	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	2/5/1990	LOS ANGELES RWQCB (REGION 4)
GREEN, CROWE & COMPANY	3083	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/18/1988	LOS ANGELES RWQCB (REGION 4)
MARICHU INCORPORATED	20	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/28/1992	LOS ANGELES RWQCB (REGION 4)
DE KING SCREW PRODUCTS	3330	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	3/4/1988	LOS ANGELES RWQCB (REGION 4)
ASSOCIATED COMPONENTS MFG. INC.	3030	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1988	LOS ANGELES RWQCB (REGION 4)
G.E. GUNDERSON MANUFACTORING	2540	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	12/11/1987	LOS ANGELES RWQCB (REGION 4)
COLOR HOUSE	1814	Valpreda St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
STEVEN'S GRINDING	3072	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/11/1988	LOS ANGELES RWQCB (REGION 4)
NATIONAL CAR RENTAL SYSTEM, INC.	4511	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/7/1995	LOS ANGELES RWQCB (REGION 4)
ELECTRO-DIAGNOSTIC INSTRUMENTS	3401	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	3/16/1988	LOS ANGELES RWQCB (REGION 4)
G.S.M.	2940	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/26/1988	LOS ANGELES RWQCB (REGION 4)
UNITED OIL #10	280	ALAMEDA AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	10/28/2010	LOS ANGELES RWQCB (REGION 4)
B.J. GRINDING CO.	2632	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/16/1996	LOS ANGELES RWQCB (REGION 4)
MAX ERB INSTRUMENT CO.	2112	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/6/1989	LOS ANGELES RWQCB (REGION 4)
BESTO MFG.	3051	California St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/18/1988	LOS ANGELES RWQCB (REGION 4)
EVERGREEN CLEANERS	2436	W. Victory Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/29/1997	LOS ANGELES RWQCB (REGION 4)
MARATHON FLIGHTRONICS	2511	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
AIR HARDWARE INCORPORATED	3082	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/11/1988	LOS ANGELES RWQCB (REGION 4)
NATIONAL BROADCASTING STUDIOS	330	BOB HOPE DR.	BURBANK	Cleanup Program Site	Completed - Case Closed	4/1/2020	LOS ANGELES RWQCB (REGION 4)
TYLIE JONES AND ASSOCIATES	2240	Screenland Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1990	LOS ANGELES RWQCB (REGION 4)
CHIEF AUTO BODY AND PAINT	4008	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	8/25/1995	LOS ANGELES RWQCB (REGION 4)
NOVACAP	2221	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1995	LOS ANGELES RWQCB (REGION 4)
ANTIMITE TERMITE & PEST	2320	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/23/1989	LOS ANGELES RWQCB (REGION 4)
ISTOPE PRODUCTS CABS	2317	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
RELIABLE AUTO REPAIRE	2346	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/6/1987	LOS ANGELES RWQCB (REGION 4)
GSP PRECISION INCORPORATED	2827	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	12/8/1987	LOS ANGELES RWQCB (REGION 4)
SHELL OIL CO.	2501	Victory Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
POLY-CRAFT SYS-DIV. OF BLINKS	3403	Pacific Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/17/1990	LOS ANGELES RWQCB (REGION 4)
HOLLIDAY MFG. COMPANY	3018	N. Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	12/15/1987	LOS ANGELES RWQCB (REGION 4)
LITTLE PRINCE PRODUCTIONS INC.	3809	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/18/1989	LOS ANGELES RWQCB (REGION 4)
MOBIL #11-FX4	2005	GLENOAKS BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/22/1992	BURBANK, CITY OF
KBC AMERICA INC.	730	N. MARIPOSA ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	11/14/2014	LOS ANGELES RWQCB (REGION 4)
BURBANK FOUNDRY INC.	3083	N. CALIFORNIA ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	8/25/1995	LOS ANGELES RWQCB (REGION 4)
U.S. LABEL CORP.	3100	W.. VANOWEN ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/19/2014	LOS ANGELES RWQCB (REGION 4)
VALLEY ENAMELLING CORP.	2509	ONTARIO ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
IKEA Property Site	805	S San Fernando Boulevard	Burbank	Cleanup Program Site	Completed - Case Closed	3/13/2018	LOS ANGELES RWQCB (REGION 4)
BARRY CONTROLS	2323	VALLEY STREET	BURBANK	Cleanup Program Site	Completed - Case Closed	8/28/2014	LOS ANGELES RWQCB (REGION 4)
CITY OF BURBANK	5	OLIVE ST W	BURBANK	LUST Cleanup Site	Completed - Case Closed	6/30/2000	LOS ANGELES RWQCB (REGION 4)
BURBANK ENVIRONMENTAL CENTER	500	FLOWER ST S	BURBANK	LUST Cleanup Site	Completed - Case Closed	7/1/2013	SWRCB
BURBANK COACH WORKS INC.	515	S.. VARNEY ST..	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
THE HERTZ CORP.	4521	EMPIRE AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
MOBIL #11-FD3	1951	HOLLYWOOD WY N	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
BARROW FABRICS INC. OF CALIF.	3520	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	1/18/1990	LOS ANGELES RWQCB (REGION 4)
WORLD OIL #12	3805	OLIVE AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	7/23/1996	LOS ANGELES RWQCB (REGION 4)
JOHANSON DIELECTRICS	3515	W. Pacific Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/16/1990	LOS ANGELES RWQCB (REGION 4)
MIDWEST COMMUNICATION CORP.	1117	ISABEL ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
AMER. FINE ARTS FOUNDRY	2520	N.. ONTARIO ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
SOUTHERN PACIFIC TRANSPORTATION CO./RAILCHEM, INC	201	NORTH FRONT STREET	BURBANK	Cleanup Program Site	Completed - Case Closed	9/30/2015	LOS ANGELES RWQCB (REGION 4)
ACE CAMERA CLINIC	3506	W. MAGNOLIA BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/19/2014	LOS ANGELES RWQCB (REGION 4)
BEST CLEANERS	3425	W. Victory Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/18/1990	LOS ANGELES RWQCB (REGION 4)
DICK CEPEK	1055	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
KOESSLER SALES CO.	2010	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/31/1989	LOS ANGELES RWQCB (REGION 4)
WELCO ELECTRONICS INC.	4555	Chermak St.	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1990	LOS ANGELES RWQCB (REGION 4)
CALAM MFG. CO. INC.	2820	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	12/29/1987	LOS ANGELES RWQCB (REGION 4)
NEWPORT ENTERPRISES INC.	2313	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/16/1989	LOS ANGELES RWQCB (REGION 4)
BUSY BS UPHOLSTERY	2110	Glenoaks Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/16/1988	LOS ANGELES RWQCB (REGION 4)
DAV-LO & SPACE AGE ENG'G	2521	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1988	LOS ANGELES RWQCB (REGION 4)
ACCURATE LASER INTERNATIONAL	3310	Vanowen St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/28/1992	LOS ANGELES RWQCB (REGION 4)
PSI TECHNOLOGIES, INC.	3333	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/8/1988	LOS ANGELES RWQCB (REGION 4)
MOLDING CORPORATION OF AMERICA	2701	N. Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/18/1987	LOS ANGELES RWQCB (REGION 4)
INTERNATIONAL COLOR IMAGE LABS	2301	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	6/26/1995	LOS ANGELES RWQCB (REGION 4)
OCEAN TECHNOLOGY, INC.	2835	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/7/1997	LOS ANGELES RWQCB (REGION 4)
FROST INDUST. ELECT.	2430	N. Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/6/1988	LOS ANGELES RWQCB (REGION 4)
VIKING INSULATION COMPANY	3014	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/4/1995	LOS ANGELES RWQCB (REGION 4)
FLO-SYSTEMS INCORPORATED	3010	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	12/8/1987	LOS ANGELES RWQCB (REGION 4)
A.F. JOHNSON COMPANY, INC.	2706	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/10/1989	LOS ANGELES RWQCB (REGION 4)
MIKE DUNCAN'S FOUR X DOCTOR	1031	N. Victory Pl	Burbank	Cleanup Program Site	Completed - Case Closed	6/12/1990	LOS ANGELES RWQCB (REGION 4)
LOCKHEED PLANT B-6	2801	HOLLYWOOD WY N	BURBANK	LUST Cleanup Site	Completed - Case Closed	10/30/1996	LOS ANGELES RWQCB (REGION 4)
UNOCAL #1188	3701	MAGNOLIA BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/11/1998	LOS ANGELES RWQCB (REGION 4)
NORMAN ENTERPRISES INC.	2601	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
MERCURY AIR SERVICES	4331	EMPIRE AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/16/2011	BURBANK, CITY OF
PHOTO-SONICS INC.	820	S. MARIPOSA ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	11/15/1991	
AMERICAN INT. RENT-A-CAR	2820	N. Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
STUDIO VAN & STORAGE	2901	Thornton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/10/1987	LOS ANGELES RWQCB (REGION 4)
PMI PROP MASTER INC	912	ISABEL ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/1995	LOS ANGELES RWQCB (REGION 4)
ARTCRAFT PLATING	76	E. SANTA ANITA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
TECH-GRAPHIC	315	SOUTH FLOWER STREET	BURBANK	Cleanup Program Site	Completed - Case Closed	5/17/2017	LOS ANGELES RWQCB (REGION 4)
FRANK MFG. CO.	1118	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
UNATECH MFG. AND SALES CORP.	2711	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1988	LOS ANGELES RWQCB (REGION 4)
SHELL	140	ALAMEDA AVE E	BURBANK	LUST Cleanup Site	Completed - Case Closed	1/28/1986	BURBANK, CITY OF
SPENCE ELECTROPLATING COMPANY	1001	CHESTNUT ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	11/19/2014	LOS ANGELES RWQCB (REGION 4)
AIRMOTIVE, INC.	3400	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	11/18/1987	LOS ANGELES RWQCB (REGION 4)
BARRY CONTROLS	4400	Vanowen St.	Burbank	Cleanup Program Site	Completed - Case Closed	5/18/1990	LOS ANGELES RWQCB (REGION 4)
WARNER BROTHER STUDIOS	4000	WARNER BLVD	BURBANK	LUST Cleanup Site	Completed - Case Closed	1/21/1998	LOS ANGELES RWQCB (REGION 4)
ED & D ELECTRONICS, INC.	3110	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/10/1987	LOS ANGELES RWQCB (REGION 4)
AUTOMOTIVE ASSOCIATES	2227	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
BRU-STER PRINTING CO / G.R. HUTT	1953	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/2/1985	LOS ANGELES RWQCB (REGION 4)
HESS RADIATOR SERVICE	3512	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/18/1989	LOS ANGELES RWQCB (REGION 4)

HOBAK PRECISION METALS	2529	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
HYDRA-ELECTRIC CO.	3151	Kenwood St.	Burbank	Cleanup Program Site	Completed - Case Closed	7/10/1997	LOS ANGELES RWQCB (REGION 4)
AIRCRAFT GOVERNOR INC.	4110	Vanowen Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	5/18/1990	LOS ANGELES RWQCB (REGION 4)
IMPORTS UNLIMITED	2204	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	8/7/1995	LOS ANGELES RWQCB (REGION 4)
FEDERAL EXPRESS	3405	Pacific Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	2/4/1992	LOS ANGELES RWQCB (REGION 4)
MIYANO MACHINERY USA INC.	2907	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	12/9/1987	LOS ANGELES RWQCB (REGION 4)
SAWYER PRECISION SHEET METAL	3066	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
MAASDAM POW'R PULL-INC.	2212	Kenmere Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	6/7/1990	LOS ANGELES RWQCB (REGION 4)
TRI-WESTERN DATA SYSTEMS INC.	2309	San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
FORTING LAMINATING CORP.	4114	Vanowen Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	10/9/1990	LOS ANGELES RWQCB (REGION 4)
RYAN HERCO PRODUCTS CORP.	2509	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/17/1987	LOS ANGELES RWQCB (REGION 4)
LILLY PACKING CO.	1210	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/8/1989	LOS ANGELES RWQCB (REGION 4)
MONARCH ATHLETIC SUPPLY	1040	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	5/25/1989	LOS ANGELES RWQCB (REGION 4)
F & F AIR PARTS	2211	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/6/1989	LOS ANGELES RWQCB (REGION 4)
BROWNFIELD COMPANY INC.	3062	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/26/1988	LOS ANGELES RWQCB (REGION 4)
MASTERGAGE & TOOL CO. INC.	2617	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
ELECTRORENT	4514	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	10/9/1990	LOS ANGELES RWQCB (REGION 4)
BUDGET RENT-A-CAR	2220	N. HOLLYWOOD WAY.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
MODERN ALBUM OF CALIF.	3116	Vanowen St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/13/1990	LOS ANGELES RWQCB (REGION 4)
QUAD COLOR	2124	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	5/10/1988	LOS ANGELES RWQCB (REGION 4)
AVIBANK MFG., INC.	210	VICTORY BLVD S	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/6/2009	BURBANK, CITY OF
TOSCO S.S. #1999	1976	HOLLYWOOD WAY	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
AUTO MATTERS	2812	N. SAN FERNANDO BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	6/16/2006	LOS ANGELES RWQCB (REGION 4)
BURBANK PUBLIC SERVICE DEPT.	164	MAGNOLIA BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/16/2011	BURBANK, CITY OF
LOCKHEED PLANT B-1	17505	VICTORY PL	BURBANK	LUST Cleanup Site	Completed - Case Closed	6/29/1995	LOS ANGELES RWQCB (REGION 4)
CHEVRON #9-0839	2650	HOLLYWOOD WY N	BURBANK	LUST Cleanup Site	Completed - Case Closed	10/4/1996	LOS ANGELES RWQCB (REGION 4)
ARCO #5039	201	ALAMEDA AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	7/20/2004	LOS ANGELES RWQCB (REGION 4)
SURFACE FINISHING	2501	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
FLO CONTROL	3210	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/6/1988	LOS ANGELES RWQCB (REGION 4)
FORMER LOCKHEED PLANT B-5	4207	EMPIRE AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	6/29/2004	LOS ANGELES RWQCB (REGION 4)
CORDELL INDUST. INC.	3079	Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/8/1988	LOS ANGELES RWQCB (REGION 4)
TONY'S AUTO REPAIR	2420	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/31/1989	LOS ANGELES RWQCB (REGION 4)
ACSCO PRODUCTS, INCORPORATED	313	N. LAKE ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/19/2014	LOS ANGELES RWQCB (REGION 4)
SIMCO CORPORATION	2201	Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1990	LOS ANGELES RWQCB (REGION 4)
INDUSTRIAL ENGRAVING CO. INC.	3808	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/18/1989	LOS ANGELES RWQCB (REGION 4)
AGFA-GEVAERT, INC.	914	N. VICTORY BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
DELTA SCIENTIFIC CORP.	2033	N. Lincoln St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/5/1988	LOS ANGELES RWQCB (REGION 4)
AIRLINE PARTS COMPANY INC.	3050	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/26/1988	LOS ANGELES RWQCB (REGION 4)
PRODUCTION GRIP EQUIPMENT INC.	3321	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/29/1987	LOS ANGELES RWQCB (REGION 4)
WEST COAST ELECTRIC SALES	2802	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/26/1987	LOS ANGELES RWQCB (REGION 4)
YCM	2316	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1989	LOS ANGELES RWQCB (REGION 4)
RUFFS AUTOMOTIVE SPECIALISTS	3711	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/2/1997	LOS ANGELES RWQCB (REGION 4)
ROYAL DIE CASTING	1816	N. Keystone St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
EVELYN'S BEAUTY SALON	1308	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/25/1989	LOS ANGELES RWQCB (REGION 4)
CELEBRITY CLEANERS	1121	N. San Fernando Rd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/14/1995	LOS ANGELES RWQCB (REGION 4)
AMBROSE TERMITE CONTROL CO.	3402	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/18/1989	LOS ANGELES RWQCB (REGION 4)
INDUSTRY SAW BLADES INC.	2811	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	12/8/1987	LOS ANGELES RWQCB (REGION 4)
ELECTROPEDIC	3223	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/12/1988	LOS ANGELES RWQCB (REGION 4)
LOVIE, HAL PRINTING	2609	Wyoming Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1990	LOS ANGELES RWQCB (REGION 4)
MODE O'DAY	2130	Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1990	LOS ANGELES RWQCB (REGION 4)
CONRAD DRY CLEANER	4416	W. Victory Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/18/1990	LOS ANGELES RWQCB (REGION 4)
ZAG MACHINING	2523	N. Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/17/1987	LOS ANGELES RWQCB (REGION 4)
SOUND TRAX STUDIOS WAREHOUSE	2821	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/28/1992	LOS ANGELES RWQCB (REGION 4)
K & L ANODIZING CORP.	1200	S. VICTORY BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	11/6/1995	LOS ANGELES RWQCB (REGION 4)
UNI-PLATE INCORPORATED	6	W. BURBANK BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
ANDREW JERGENS COMPANY	99	VERDUGO AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/29/1996	BURBANK, CITY OF
JOHN'S MOBIL	2501	MAGNOLIA BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/28/2003	LOS ANGELES RWQCB (REGION 4)
Former B-G Detection Service Facility	3071	N. Lima Street	Burbank	Cleanup Program Site	Completed - Case Closed	3/25/2013	LOS ANGELES RWQCB (REGION 4)
VERADYNE CORP.	330	N. VICTORY BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
BURBANK STEEL TREATING, INC.	415	S. VARNEY ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
ROCK SOLID	801	S. MAIN ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
PREMIER DRY CLEANING	3238	N. SAN FERNANDO BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	4/15/1988	LOS ANGELES RWQCB (REGION 4)
WEBER AIRCRAFT	2820	ONTARIO ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	10/19/2019	LOS ANGELES RWQCB (REGION 4)
MASTERCRAFT METAL	1010	VICTORY PL.	BURBANK	Cleanup Program Site	Completed - Case Closed	2/14/1997	LOS ANGELES RWQCB (REGION 4)
SATURN FASTENERS	425	S.. VARNEY ST..	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
THE IDEA FACTORY	1114	Burbank Blvd. Suite C	Burbank	Cleanup Program Site	Completed - Case Closed	3/31/1989	LOS ANGELES RWQCB (REGION 4)
MANENTE SELF SERVE STATION	2829	N. Glenoaks Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	9/25/1989	LOS ANGELES RWQCB (REGION 4)
PLASTI WARE COMPANY	1033	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	5/25/1989	LOS ANGELES RWQCB (REGION 4)
RAINBOW PUBLICATIONS INC.	1813	Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
SYD'S ELECTRICAL COMPANY	1610	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/6/1989	LOS ANGELES RWQCB (REGION 4)
SANDS DRAPERY INC.	4321	MAGNOLIA BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	7/29/1996	LOS ANGELES RWQCB (REGION 4)
SIDMAR PRINTING CO.	618	Birmingham Rd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
BERC BROADCAST EQUIPMENT CO.	4545	Chermak St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/13/1991	LOS ANGELES RWQCB (REGION 4)
C R SMOKE & MFG.	1448	N. Myers St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/8/1989	LOS ANGELES RWQCB (REGION 4)
IRVINE OPTICAL INCORPORATED	3140	Clybourn Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	6/7/1990	LOS ANGELES RWQCB (REGION 4)
A& L GRAPHICO., INC.	2070	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
MYERS CLEANERS & LAUNDRY	1907	N. Glenoaks Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/17/1995	LOS ANGELES RWQCB (REGION 4)
CALTRANS-BUENA VISTA MAINT.	2600	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
IWERKS ENTERTAINMENT INC.	4540	Valerio St.	Burbank	Cleanup Program Site	Completed - Case Closed	6/14/1990	LOS ANGELES RWQCB (REGION 4)
ALLEN'S #2 CLEANERS	1516	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/31/1994	LOS ANGELES RWQCB (REGION 4)
LARSON SOUND CENTER	4109	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	6/7/1990	LOS ANGELES RWQCB (REGION 4)
K-BEL TOOL & MFG. CO.	2935	N. Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/18/1988	LOS ANGELES RWQCB (REGION 4)
PERMALUSTER INC.	1844	N. Keystone St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/26/1988	LOS ANGELES RWQCB (REGION 4)
KENNY'S PLUMBING SUPPLY	3314	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
AMERICAN FABRICATION	4200	Vanowen St.	Burbank	Cleanup Program Site	Completed - Case Closed	10/9/1990	LOS ANGELES RWQCB (REGION 4)
WESSEL AIR CONDITIONING	3228	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
BANGS MANUFACTURING	1601	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	6/6/1990	LOS ANGELES RWQCB (REGION 4)
VICTORY SILK SCREEN PROCESSING	2701	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/10/1989	LOS ANGELES RWQCB (REGION 4)
N B INDUSTRIES	2301	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
ST. JOSEPH MED CTR.	501	S. BUENA VISTA ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
AERO QUALITY SALES	2821	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/12/1988	LOS ANGELES RWQCB (REGION 4)
ARIES SUPPLY & EQUIPMENT CO.	3000	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	12/8/1987	LOS ANGELES RWQCB (REGION 4)
OLIVE ARCO	1820	OLIVE AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	1/31/2002	BURBANK, CITY OF
FIBER RESIN CORP.	170	W. PROVIDENCIA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
FOTO-KEM INDUSTRIES,INC.	2800	W. OLIVE AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	2/11/2005	LOS ANGELES RWQCB (REGION 4)
TEXACO	2616	GLENOAKS BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
Mestas Plating	108	East Prospect Avenue	Burbank	Cleanup Program Site	Completed - Case Closed	11/25/2015	LOS ANGELES RWQCB (REGION 4)
BURBANK GATEWAY CENTER	0	3RD & MAGNOLIA BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/12/2014	LOS ANGELES RWQCB (REGION 4)
SANDS DRAPER, INC.	4321	MAGNOLIA BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/28/2003	LOS ANGELES RWQCB (REGION 4)
TRANSCORD ENTERPRISES	2890	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1988	LOS ANGELES RWQCB (REGION 4)
DIGILITH	2720	W. BURBANK BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2003	

CALTRON CO.	2118	Jannetta Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
KONOGRAPHICS, INC.	2521	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1988	LOS ANGELES RWQCB (REGION 4)
ADVANCED ADVERTISING	3129	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/16/1993	LOS ANGELES RWQCB (REGION 4)
MERCURY REFUELING	4513	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
ADLER SCREW PRODUCTS INC.	3047	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	7/30/1996	LOS ANGELES RWQCB (REGION 4)
U.S. INSTRUMENT RENTALS	4525	Valerio St.	Burbank	Cleanup Program Site	Completed - Case Closed	12/6/1990	LOS ANGELES RWQCB (REGION 4)
HURON MACHINE PRODUCTS INC.	2805	N. Glenoaks Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/16/1988	LOS ANGELES RWQCB (REGION 4)
COMMUNITY AUTO BODY	300	S. LAKE ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
BREMNER PRINTING	3419	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/18/1990	LOS ANGELES RWQCB (REGION 4)
WESTERN LIGHTING INDUST. INC.	3540	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	1/18/1990	LOS ANGELES RWQCB (REGION 4)
SARQUIZ CHEVRON (FORMER MEPCO SERVICE STA.)	2501	OLIVE AVE	BURBANK	LUST Cleanup Site	Completed - Case Closed	12/22/2004	LOS ANGELES RWQCB (REGION 4)
JOHANSON DIELECTRICS	3113	W. Pacific Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	2/3/1990	LOS ANGELES RWQCB (REGION 4)
VISTA CLEANERS	2411	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	10/15/1997	LOS ANGELES RWQCB (REGION 4)
J. PIEDMONT ADVERTISING INC.	3311	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/10/1987	LOS ANGELES RWQCB (REGION 4)
FAIR WELDING	2523	N. Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1988	LOS ANGELES RWQCB (REGION 4)
MEDICI MARBLE & GRANITE INC.	3099	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/26/1988	LOS ANGELES RWQCB (REGION 4)
WILLIAMS ENGRAVING CO.	3101	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
MATTHEWS STUDIO EQUIPMENT	2015	Lincoln St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/5/1988	LOS ANGELES RWQCB (REGION 4)
QUALITY HEAT TREATING	3305	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	9/4/1996	LOS ANGELES RWQCB (REGION 4)
UNITED TECHNOLOGIES/CARRIER	2625	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/8/1988	LOS ANGELES RWQCB (REGION 4)
MEDLON	3325	Glenoaks Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/31/1994	LOS ANGELES RWQCB (REGION 4)
HAL LOVIE PRINTING	2609	W. Wyoming Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1990	LOS ANGELES RWQCB (REGION 4)
CLEMCO	2911	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	11/19/1990	LOS ANGELES RWQCB (REGION 4)
OTTO SERVICE	2014	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/6/1989	LOS ANGELES RWQCB (REGION 4)
ASII TANK FARM (SITE #1)	2761	HOLLYWOOD WAY	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
LA SIGN & GRAPHICS	100	E. VERDUGO AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
UNITED OIL #14	2500	MAGNOLIA BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	10/19/1998	BURBANK, CITY OF
ABBY RENTS	2333	N. VALLEY ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
SHELL SERVICE STATION	2501	VICTORY BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
CHEVRON #9-610	3610	BURBANK BLVD	BURBANK	LUST Cleanup Site	Completed - Case Closed	4/30/1991	BURBANK, CITY OF
Lyn-Tron, Incorporated	3150	N. Damon Way	Burbank	Cleanup Program Site	Completed - Case Closed	12/16/2013	LOS ANGELES RWQCB (REGION 4)
SCIENTIFIC CUTTING TOOLS	3012	Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
A & T ENGINEERING	2609	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/12/1988	LOS ANGELES RWQCB (REGION 4)
CARTERS SUPPLY INC.	2504	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/18/1987	LOS ANGELES RWQCB (REGION 4)
CHEVRON #9-5538	923	VICTORY BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
SAM ENTERPRISES	1834	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/16/1989	LOS ANGELES RWQCB (REGION 4)
PARDE AUTO BROKERS	3226	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
CRICKET WEST DRY CLEANERS	2320	N. Keeler St.	Burbank	Cleanup Program Site	Completed - Case Closed	7/22/1997	LOS ANGELES RWQCB (REGION 4)
A.G.L. RADIATOR SERVICE	1411	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/8/1989	LOS ANGELES RWQCB (REGION 4)
STUDIO SPECTRUM INCORPORATED	1056	N. Lake St.	Burbank	Cleanup Program Site	Completed - Case Closed	12/20/1989	LOS ANGELES RWQCB (REGION 4)
CHEVRON #9-610	3610	BURBANK BLVD	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/16/2003	LOS ANGELES RWQCB (REGION 4)
PSI	3000	N. Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	12/6/1990	LOS ANGELES RWQCB (REGION 4)
SATELLITE RECORDS	2325	W. Victory Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
SULLIVAN BLUTH ANIMATION	4209	Vanowen Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	5/25/1990	LOS ANGELES RWQCB (REGION 4)
FIVE MFG. CO.	1855	Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1988	LOS ANGELES RWQCB (REGION 4)
MATTHEW STUDIO EQUIPMENT, INC.	2021	N. Lincoln St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/5/1988	LOS ANGELES RWQCB (REGION 4)
IMPERIAL FILM SERVICES, INC.	3160	Damon Way	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1990	LOS ANGELES RWQCB (REGION 4)
WALT DISNEY STUDIOS	500	SOUTH BUENA VISTA STREET	BURBANK	Cleanup Program Site	Completed - Case Closed	8/24/2012	LOS ANGELES RWQCB (REGION 4)
ARTISANA SIGNS	4212	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	6/7/1990	LOS ANGELES RWQCB (REGION 4)
ALLEN BOLT & INDUSTRIAL SUPPLY	1711	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/6/1989	LOS ANGELES RWQCB (REGION 4)
HOSPITALITY CONSTRUCTION CORP.	4111	Vanowen Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	4/27/1990	LOS ANGELES RWQCB (REGION 4)
Top Rank Collision	163	West Magnolia Blvd	Burbank	Cleanup Program Site	Completed - Case Closed	9/12/2017	LOS ANGELES RWQCB (REGION 4)
GENERAL AUTOMATION	2520	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
G & B ENTERPRISE METAL POL.	2520	Ontario St. Suite C-1	Burbank	Cleanup Program Site	Completed - Case Closed	10/22/1991	LOS ANGELES RWQCB (REGION 4)
ANAHEIM PET & AQUARIUM	3314	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/10/1987	LOS ANGELES RWQCB (REGION 4)
RAMADA INN	2900	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	8/15/1990	LOS ANGELES RWQCB (REGION 4)
QUEEN CITY STEEL INCORPORATED	2636	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/17/1987	LOS ANGELES RWQCB (REGION 4)
R. SCHER & ASSOCIATES INC.	2516	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/6/1987	LOS ANGELES RWQCB (REGION 4)
CONNELL PROCESSING INC.	3080	N. AVON ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	3/27/1987	LOS ANGELES RWQCB (REGION 4)
D S D AUTOMOTIVE	4212	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
RAPID GAS #43	250	GLENOAKS BLVD S	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2010	LOS ANGELES RWQCB (REGION 4)
BICO, INC.	3116	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	6/25/1990	LOS ANGELES RWQCB (REGION 4)
CALIFORNIA NATIONAL GUARD	3800	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	12/27/1996	LOS ANGELES RWQCB (REGION 4)
GTR MARBLE INC.	1102	ISABEL ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	10/23/1989	DEPARTMENT OF TOXIC SUBSTANCES CONTROL
QUALITY READY MIX	1061	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	12/27/1996	LOS ANGELES RWQCB (REGION 4)
VECTOR INTERIOR CONTRACTING	2115	Kenmere Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
LIGHTSTORM ENTERTAINMENT, INC.	3100	Damon Way	Burbank	Cleanup Program Site	Completed - Case Closed	8/15/1990	LOS ANGELES RWQCB (REGION 4)
QUEEN CITY IRON & METAL CO.	2801	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/16/1988	LOS ANGELES RWQCB (REGION 4)
JANCO CORPORATION	3111	WINONA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	3/2/2015	LOS ANGELES RWQCB (REGION 4)
LEE FILTERS	2237	HOLLYWOOD WAY.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/19/2014	LOS ANGELES RWQCB (REGION 4)
HAMOUI MOBIL	349	GLENOAKS BLVD S	BURBANK	LUST Cleanup Site	Completed - Case Closed	10/30/1995	BURBANK, CITY OF
LOCKHEED PLANT A-1-F	2555	HOLLYWOOD WY	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/1/1994	LOS ANGELES RWQCB (REGION 4)
AL-SAL OIL CO #3	2421	VICTORY BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	10/19/1998	BURBANK, CITY OF
IMAGE LABORATORIES	3611	N. SAN FERNANDO BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/31/1996	LOS ANGELES RWQCB (REGION 4)
JAY-DEE AIRCRAFT SUPPLY CO.INC	2921	THORNTON AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/19/2014	LOS ANGELES RWQCB (REGION 4)
AM/PM DOOR REPAIR	80	E. SANTA ANITA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
MOBIL #11-FX4	2005	GLENOAKS BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
CRE	116	PROSPECT AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
LOCKHEED A-1 EAST, BLDG 90	3110	W. THORNTON AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	8/31/2016	LOS ANGELES RWQCB (REGION 4)
EDGCOMB ENGINEERING	1112	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/31/1989	LOS ANGELES RWQCB (REGION 4)
SPEC PLASTICS	2445	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	3/16/1988	LOS ANGELES RWQCB (REGION 4)
KEIM PRECISION MIRRORS CORP.	2117	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
MACH TECH, INC.	1021	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	5/25/1989	LOS ANGELES RWQCB (REGION 4)
SHELTER MEDIA COMM., INC.	2514	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/17/1987	LOS ANGELES RWQCB (REGION 4)
DELTA SCIENTIFIC CORP.	2031	Lincoln Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/5/1988	LOS ANGELES RWQCB (REGION 4)
BASKIN ROBBINS	1201	S. Victory Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
LEFLER MFG. & DEVELOPMENT	1845	Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	2/24/1995	LOS ANGELES RWQCB (REGION 4)
CARTER VSP AIRPORT PARKING	2616	N. Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	12/11/1987	LOS ANGELES RWQCB (REGION 4)
HURST LABELING SYSTEMS	3625	W. Pacific Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/31/1996	LOS ANGELES RWQCB (REGION 4)
RASMUSSEN'S GARAGE	110	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/2/1990	LOS ANGELES RWQCB (REGION 4)
CANNON EQUIPMENT INC.	1120, 1122	Scott Rd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1988	LOS ANGELES RWQCB (REGION 4)
AUDIOTEK CORPORATION	2025	N. Lincoln St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/6/1988	LOS ANGELES RWQCB (REGION 4)
B.M. PEARCE COMPANY	107	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
CALIFORNIA TERMITE & PEST	124	E. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	10/9/1990	LOS ANGELES RWQCB (REGION 4)
SPRINGER COMPANY INTERNATIONAL	2101	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	10/12/1989	LOS ANGELES RWQCB (REGION 4)
VENTS WALLPAPER & BLINDS	1509	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1988	LOS ANGELES RWQCB (REGION 4)
COLOR MEDIA	2932	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/27/1994	LOS ANGELES RWQCB (REGION 4)
LOCKHEED PLANT A-1	2555	HOLLYWOOD WY N	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/1/1994	LOS ANGELES RWQCB (REGION 4)
WESTLAND GRAPHICS	1400	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/31/1989	LOS ANGELES RWQCB (REGION 4)
J & J AUTO BODY	2717	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/10/1989	LOS ANGELES RWQCB (REGION 4)
SAMURAI SIGNS	1427	N. Avon St.	Burbank	Cleanup Program Site	Completed - Case Closed	10/9/1990	LOS ANGELES RWQCB (REGION 4)

ASHMAN SERVICES	1514	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	10/2/1989	LOS ANGELES RWQCB (REGION 4)
SCREEN GRAPHICS CO. INC.	3216	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	6/11/1995	LOS ANGELES RWQCB (REGION 4)
WARNER BROTHER STUDIOS	4000	WARNER BLVD	BURBANK	LUST Cleanup Site	Completed - Case Closed	5/28/2003	LOS ANGELES RWQCB (REGION 4)
DIALYSIS AT HOME	4530	Chermak St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/18/1990	LOS ANGELES RWQCB (REGION 4)
GM SIGNS CORP.	3334	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
KEYSTONE METAL PRODUCTS	2711	California St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/12/1988	LOS ANGELES RWQCB (REGION 4)
E.I.DUPONT DE NEMOURS & CO.INC	3300	PACIFIC AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
CAL-AIR PROCESSING	3014	N. HOLLYWOOD WAY.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
PUBLIC WORKS YARD	124	LAKE ST S	BURBANK	LUST Cleanup Site	Completed - Case Closed	1/22/2013	SWRCB
BOCK COMPANY	132	PROVIDENCIA AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	10/26/2011	BURBANK, CITY OF
CONNELL PROCESSING INC.	3094	N. AVON ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	3/27/1987	LOS ANGELES RWQCB (REGION 4)
SUN BANK	3110	WINONA AVE	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
MOBIL	439	ALAMEDA AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	12/16/1997	LOS ANGELES RWQCB (REGION 4)
VORELCO INC.	825	N. VICTORY BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/12/1991	LOS ANGELES RWQCB (REGION 4)
COMCO, INC	2151	NORTH LINCOLN STREET	BURBANK	Cleanup Program Site	Completed - Case Closed	9/22/2015	LOS ANGELES RWQCB (REGION 4)
WARNER BROTHERS	3701	OAK ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/12/2014	LOS ANGELES RWQCB (REGION 4)
PROCESS CONTROL LABS	2520	N. ONTARIO ST. #D	BURBANK	Cleanup Program Site	Completed - Case Closed	8/25/1995	LOS ANGELES RWQCB (REGION 4)
THE PATRICK TATOPOULOS DESIGNS	1951	ONTARIO ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	8/25/1995	LOS ANGELES RWQCB (REGION 4)
ROTO-JET OF AMERICA CO., INC.	2819	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
DUN-RITE METAL REFINISHING INC.	3055	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/4/1988	LOS ANGELES RWQCB (REGION 4)
J & M PRODUCTS	2435	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/11/1988	LOS ANGELES RWQCB (REGION 4)
DC AUTOCRAFT	25	E. PROVIDENCIA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	2/14/1997	LOS ANGELES RWQCB (REGION 4)
MATTHEWS STUDIO EQUIPMENT	2411	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1988	LOS ANGELES RWQCB (REGION 4)
NORTH HOLLYWOOD PRINTING CO.	3915	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/18/1989	LOS ANGELES RWQCB (REGION 4)
CAL-AM SWITCH & RELAY	4555	Chermak St.	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1990	LOS ANGELES RWQCB (REGION 4)
THE FISHING FACTORY	2313	N. San Fernando Rd.	Burbank	Cleanup Program Site	Completed - Case Closed	10/12/1989	LOS ANGELES RWQCB (REGION 4)
LAAGCO SALES	2930	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/23/1992	LOS ANGELES RWQCB (REGION 4)
CHEN ENGINEERING & SERVICES	3540	Valhalla Dr.	Burbank	Cleanup Program Site	Completed - Case Closed	1/18/1990	LOS ANGELES RWQCB (REGION 4)
DE KING INC. CO.	3326	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	2/27/1998	LOS ANGELES RWQCB (REGION 4)
FAUCI & SON, INC.	2310	W. Victory Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1989	LOS ANGELES RWQCB (REGION 4)
DICKS GERMAN CAR SERVICE INC.	1819	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/7/1995	LOS ANGELES RWQCB (REGION 4)
PALM CLEANERS	2212	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/16/1989	LOS ANGELES RWQCB (REGION 4)
R.C. PROVISION	1016	Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	12/27/1996	LOS ANGELES RWQCB (REGION 4)
JIM & DOUG CARTER'S AUTOMOTIVE	2612	N. Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	12/11/1987	LOS ANGELES RWQCB (REGION 4)
BURBANK TIRE SUPPLY	1313	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/6/1989	LOS ANGELES RWQCB (REGION 4)
3M	3130	Damon Way	Burbank	Cleanup Program Site	Completed - Case Closed	12/4/1990	LOS ANGELES RWQCB (REGION 4)
ILONA DRAPERIES, INC.	3130	Clybourn Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	6/7/1990	LOS ANGELES RWQCB (REGION 4)
VALENTINE CLEANERS	2300	W. Victory Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1989	LOS ANGELES RWQCB (REGION 4)
EMPIRE STEEL TREATING	1627	Maria St.	Burbank	Cleanup Program Site	Completed - Case Closed	6/30/1988	LOS ANGELES RWQCB (REGION 4)
STRANG MACHINE SHOP	1124	Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/23/1989	LOS ANGELES RWQCB (REGION 4)
BUCONE CORP.	1017	N. Lake St.	Burbank	Cleanup Program Site	Completed - Case Closed	10/4/1989	LOS ANGELES RWQCB (REGION 4)
WEBER AIRCRAFT	2820	ONTARIO ST	BURBANK	LUST Cleanup Site	Completed - Case Closed	8/18/1987	LOS ANGELES RWQCB (REGION 4)
FRANK STUBBS CO. INC.	4518	Vanowen St.	Burbank	Cleanup Program Site	Completed - Case Closed	10/9/1990	LOS ANGELES RWQCB (REGION 4)
BURBANK AIRPORT HILTON	2500	Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	4/27/1990	LOS ANGELES RWQCB (REGION 4)
CANDLELIGHT PRESS	2443	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/4/1988	LOS ANGELES RWQCB (REGION 4)
TEXON SERVICE CENTER	249	GLENOAKS BLVD S	BURBANK	LUST Cleanup Site	Completed - Case Closed	9/26/1996	BURBANK, CITY OF
STERLING TIRE	201	001ST ST N	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/19/1997	LOS ANGELES RWQCB (REGION 4)
COLOR HOUSE	1919	W. Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
OLYMPIC RENT-A-CAR	3317	Burton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/30/1987	LOS ANGELES RWQCB (REGION 4)
PRO WEST AUTOMOTIVE	1800	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/13/1998	LOS ANGELES RWQCB (REGION 4)
CANTEBURY TERMITE & PEST CONTROL	1048	N. Lake St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/14/1989	LOS ANGELES RWQCB (REGION 4)
SPENCE ELECTROPLATING	917	W. CHESTNUT ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	11/14/2014	
RSD	715	S. FLOWER ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
ADB INDUSTRIES	2523	NORTH ONTARIO STREET	BURBANK	Cleanup Program Site	Completed - Case Closed	8/26/2014	LOS ANGELES RWQCB (REGION 4)
AL-SAL OIL CO #3	2421	VICTORY BLVD W	BURBANK	LUST Cleanup Site	Completed - Case Closed	11/5/2001	LOS ANGELES RWQCB (REGION 4)
SHELL #204-1026-0101	181	ALAMEDA AVE W	BURBANK	LUST Cleanup Site	Completed - Case Closed	7/19/2017	LOS ANGELES RWQCB (REGION 4)
SHINE JEWELRY MFG.	116	E. ALAMEDA AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	9/28/2004	LOS ANGELES RWQCB (REGION 4)
GRAFICS WEST/DON AULD & SONS	4304	W. VICTORY BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	8/25/1995	LOS ANGELES RWQCB (REGION 4)
L & M EDITORIAL	222	W. PALM AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
LA FILMCO	2080	Floyd St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
3 R WOOD DISIGN INC.	1116	S. VARNEY ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	7/27/2009	LOS ANGELES RWQCB (REGION 4)
BONDED SERVICES	3205	BURTON AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	10/29/2014	LOS ANGELES RWQCB (REGION 4)
BUILD REHAB INDUSTRIES	2205	Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1990	LOS ANGELES RWQCB (REGION 4)
MOLDING CORP. OF AMERICA	2840	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/18/1987	LOS ANGELES RWQCB (REGION 4)
FOUR MEDIA COMPANY	2813	W. Alameda Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	5/19/1998	LOS ANGELES RWQCB (REGION 4)
COLOR WEST	2228	Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1990	LOS ANGELES RWQCB (REGION 4)
G & M GRINDING CO.	1025	N. Lake St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/14/1989	LOS ANGELES RWQCB (REGION 4)
STATE PAINT CO.	3920	W. MAGNOLIA BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
Burbank Water and Power	164	W Magnolia Blvd	Burbank	LUST Cleanup Site	Completed - Case Closed	8/6/2009	BURBANK, CITY OF
DIMON INDUSTRIES	3001	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/16/1988	LOS ANGELES RWQCB (REGION 4)
PAGLIUSO ENGINEERING	3307	N. Glenoaks Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/11/1997	LOS ANGELES RWQCB (REGION 4)
NEW WORLD PUBLICATIONS	2808	N. Naomi St.	Burbank	Cleanup Program Site	Completed - Case Closed	4/26/1988	LOS ANGELES RWQCB (REGION 4)
AERO COMPONENT ENGINEERING CO.	1810	N. Keystone St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
BURBANK UNIFIED SCHOOL DISTRIC	501	SHELTON ST S	BURBANK	LUST Cleanup Site	Completed - Case Closed	12/29/1989	LOS ANGELES COUNTY
LYN-TRON	3140	Damon Way	Burbank	Cleanup Program Site	Completed - Case Closed	3/16/1993	LOS ANGELES RWQCB (REGION 4)
PIONEER TECHNOLOGY CORPORATION	1021	N. Lake St.	CA	Cleanup Program Site	Completed - Case Closed	9/14/1989	LOS ANGELES RWQCB (REGION 4)
CAL-WIRE PRECISION METAL	2801	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/19/1988	LOS ANGELES RWQCB (REGION 4)
MIYANO MACHINERY USA INC.	2831	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	12/9/1987	LOS ANGELES RWQCB (REGION 4)
BURBANK SOUND	1321	W. MAGNOLIA BLVD.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
BRANCH MACHINE PARTS, INC.	2419	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
BRANCH GRINDING CORP.	2417	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/20/1988	LOS ANGELES RWQCB (REGION 4)
ALUMTREAT, INC.	2905	Winona Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/8/1997	LOS ANGELES RWQCB (REGION 4)
ULTRAMARE AVIATION USA, INC.	3088	Clybourn Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	6/8/1990	LOS ANGELES RWQCB (REGION 4)
PAUL HOPPENFELD DISPLAY INC.	3120	Clybourn Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	6/7/1990	LOS ANGELES RWQCB (REGION 4)
CAPTIVE AIR INCORPORATED	2909	Thornton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/12/1988	LOS ANGELES RWQCB (REGION 4)
VIC'S AUTO REPAIR	1403	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1989	LOS ANGELES RWQCB (REGION 4)
I.K. CURTIS SERVICES INC.	2907	Empire Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	4/12/1988	LOS ANGELES RWQCB (REGION 4)
MR. CLEAN DRYCLEANING SERVICE	2318	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/13/1989	LOS ANGELES RWQCB (REGION 4)
CITY OF BURBANK PW YARD	124	LAKE ST S	BURBANK	LUST Cleanup Site	Completed - Case Closed	9/4/1998	BURBANK, CITY OF
2 L SCREEN PRINTING CO.	2513	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/17/1996	LOS ANGELES RWQCB (REGION 4)
CHESYSTEMS	2150	N. LINCOLN ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
BUCY DIE CASTING CORP.	633	S. GLENWOOD PL.	BURBANK	Cleanup Program Site	Completed - Case Closed	11/14/2014	LOS ANGELES RWQCB (REGION 4)
1928 JEWELRY COMPANY	3000	W.. EMPIRE AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2014	LOS ANGELES RWQCB (REGION 4)
AJC ENTERPRISES	731	S. GLENWOOD PL.	BURBANK	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
TECHNIBILT CORPORATION	1	WEST ALAMEDA AVENUE	BURBANK	Cleanup Program Site	Completed - Case Closed	7/14/2014	LOS ANGELES RWQCB (REGION 4)
AMERIFLIGHT, INC.	4700	EMPIRE AVE	BURBANK	LUST Cleanup Site	Completed - Case Closed	12/15/1992	BURBANK, CITY OF
SPACE-LOK	2526	NORTH ONTARIO STREET	BURBANK	Cleanup Program Site	Completed - Case Closed	10/21/2015	LOS ANGELES RWQCB (REGION 4)
CALIFORNIA COAST COLOR	1121	ISABEL ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/22/2014	LOS ANGELES RWQCB (REGION 4)
ARTISTS & SCULPTORS FOUNDRY	825	N. LAKE ST.	BURBANK	Cleanup Program Site	Completed - Case Closed	1/30/1997	LOS ANGELES RWQCB (REGION 4)
JAY MANUFACTURING CO.	3098	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	12/11/1988	LOS ANGELES RWQCB (REGION 4)
BUCCANEER ENTERPRISES	3020	N. Hollywood Way	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)

CAPTIVE AIR	2919	Thornton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	1/12/1988	LOS ANGELES RWQCB (REGION 4)
VILLA DI ROMA CREATIONS, INC.	1060	N. Lake St.	Burbank	Cleanup Program Site	Completed - Case Closed	9/14/1989	LOS ANGELES RWQCB (REGION 4)
HEYWOOD & HEYWOOD PRINTING	2023	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	2/16/1989	LOS ANGELES RWQCB (REGION 4)
BURBANK TOOL GRINDING SERVICE	1613	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/8/1989	LOS ANGELES RWQCB (REGION 4)
REX CLEANERS	1212	N. San Fernando Rd.	Burbank	Cleanup Program Site	Completed - Case Closed	10/9/1996	LOS ANGELES RWQCB (REGION 4)
PROVENZANO CERAMICS	3210	Vanowen St.	Burbank	Cleanup Program Site	Completed - Case Closed	7/29/1998	LOS ANGELES RWQCB (REGION 4)
AMERICAN INDUSTRIAL SUPPLY	4514	Vanowen St.	Burbank	Cleanup Program Site	Completed - Case Closed	10/9/1991	LOS ANGELES RWQCB (REGION 4)
ADVANCES SEMICONDUCTOR PROD.	2601	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
AMERIFLIGHT	4700	Empire Ave. Suite 1	Burbank	Cleanup Program Site	Completed - Case Closed	8/16/1995	LOS ANGELES RWQCB (REGION 4)
G.W. BANDY INCORPORATED	3086	N. Avon St.	Burbank	Cleanup Program Site	Completed - Case Closed	7/18/1988	LOS ANGELES RWQCB (REGION 4)
FROST INDUSTRIAL ELECTRICAL CO.	2500	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/6/1988	LOS ANGELES RWQCB (REGION 4)
BURBANK METAL SUPPLY	3207	N. San Fernando Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	11/16/1987	LOS ANGELES RWQCB (REGION 4)
BURBANK DENTAL LABORATORY	1804	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1989	LOS ANGELES RWQCB (REGION 4)
CARDONA MFG.	1869	Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	12/27/1996	LOS ANGELES RWQCB (REGION 4)
AUDIBLE SYSTEM	1631	Maria St.	Burbank	Cleanup Program Site	Completed - Case Closed	3/29/1988	LOS ANGELES RWQCB (REGION 4)
HYDRODYNE DIVISION/FPI INC.	3125	Damon Way	Burbank	Cleanup Program Site	Completed - Case Closed	3/26/1993	LOS ANGELES RWQCB (REGION 4)
NELSON AEROSPACE INCORPORATED	1037	N. Victory Pl.	Burbank	Cleanup Program Site	Completed - Case Closed	3/22/1988	LOS ANGELES RWQCB (REGION 4)
OBERON SYSTEM, INC.	3815	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	4/18/1989	LOS ANGELES RWQCB (REGION 4)
VISION SYSTEMS	3099	N. Lima St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/11/1988	LOS ANGELES RWQCB (REGION 4)
SCHMID INSULATION	2909	Thornton Ave.	Burbank	Cleanup Program Site	Completed - Case Closed	12/29/1987	LOS ANGELES RWQCB (REGION 4)
VCC	2514	Ontario St.	Burbank	Cleanup Program Site	Completed - Case Closed	11/17/1987	LOS ANGELES RWQCB (REGION 4)
SHELL (TEXACO FOOD MART #0251)	400	VICTORY BLVD N	BURBANK	LUST Cleanup Site	Completed - Case Closed	3/25/2009	LOS ANGELES RWQCB (REGION 4)
OCEAN TECHNOLOGY INC	2835	NAOMI ST N	BURBANK	LUST Cleanup Site	Completed - Case Closed	2/11/1997	LOS ANGELES RWQCB (REGION 4)
PREMIER CLEANERS (FORMER)	2708	NORTH HOLLYWOOD WAY	BURBANK	Cleanup Program Site	Completed - Case Closed	4/28/2011	LOS ANGELES RWQCB (REGION 4)
MERSOLA PROPERTY	70	E. VERDUGO AVE.	BURBANK	Cleanup Program Site	Completed - Case Closed	12/23/2003	LOS ANGELES RWQCB (REGION 4)
BURBANK FIRE STATION #11	353	OLIVE AVE E	Burbank	LUST Cleanup Site	Completed - Case Closed	3/10/2000	BURBANK, CITY OF
BOB'S AUTOMOTIVE	2716	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	1/12/1988	LOS ANGELES RWQCB (REGION 4)
PRESTIGE WOOD PRODUCTS INC.	3087	N. California St.	Burbank	Cleanup Program Site	Completed - Case Closed	2/18/1988	LOS ANGELES RWQCB (REGION 4)
EVANS EXTERMINATING CO., INC.	1616	W. Burbank Blvd.	Burbank	Cleanup Program Site	Completed - Case Closed	3/8/1989	LOS ANGELES RWQCB (REGION 4)
MULTI-LAB INC.	1633	Maria St.	Burbank	Cleanup Program Site	Completed - Case Closed	5/3/1988	LOS ANGELES RWQCB (REGION 4)

SWRCB - Geotracker Database UST

FACILITY_I	BUSINESS NAME	ADDRESS	CITY	PERMITTING
LACoFA0046000	THE BURBANK STUDIO	3000 W Alameda Ave Unit 130	Burbank	Los Angeles County Fire Department
LACoFA0002069	CF BURBANK OFFICE LP C/O TRANSWESTERN	2901 W Alameda Ave.	Burbank	Los Angeles County Fire Department
675	UNITED #110	280 W Alameda Ave	Burbank	Los Angeles County Fire Department
LACoFA0009834	WALT DISNEY PICTURES & TV	2139 W EMPIRE AVE	BURBANK	Los Angeles County Fire Department
365	Magnolia Park SKN Gasoline Inc	3701 W Magnolia Blvd	Burbank	Los Angeles County Fire Department
357	UNITED #114	2500 W MAGNOLIA BLVD	BURBANK	Los Angeles County Fire Department
553	BURBANK FIRE STATION 13	2713 THORNTON AVE	BURBANK	Los Angeles County Fire Department
228	SHELL #135108 (SALTON SHELL)	550 N HOLLYWOOD WAY	BURBANK	Los Angeles County Fire Department
LACoFA0011090	BURRTEC WASTE INDUSTRIES, INC	500 S FLOWER ST	BURBANK	Los Angeles County Fire Department
203	Naphtha, Inc.	2616 N GLENOAKS BLVD # A	BURBANK	Los Angeles County Fire Department
225	Burbank Union 76	200 N HOLLYWOOD WAY	BURBANK	Los Angeles County Fire Department
246	LOGIX FEDERAL CREDIT UNION	2340 N HOLLYWOOD WAY	BURBANK	Los Angeles County Fire Department
LACoFA0012725	G&M OIL CO #73	100 S GLENOAKS BLVD	BURBANK	Los Angeles County Fire Department
LACoFA0019130	UNITED RENTALS #408	203 W OLIVE AVE	BURBANK	Los Angeles County Fire Department
LACoFA0019163	STUDIO STAR MOBIL	3020 W OLIVE AVE	BURBANK	Los Angeles County Fire Department
999	BURBANK FIRE STATION 11	311 E ORANGE GROVE AVE	BURBANK	Los Angeles County Fire Department
14	FUEL DEPOT	1919 W ALAMEDA AVE	BURBANK	Los Angeles County Fire Department
421	BUSINESS ARTS PLAZA INC	3601 W OLIVE AVE	BURBANK	Los Angeles County Fire Department
LACoFA0022061	Studio Plaza Building	3400 RIVERSIDE DR	BURBANK	Los Angeles County Fire Department
640	United Pacific 0638	2421 W VICTORY BLVD	BURBANK	Los Angeles County Fire Department
508	Armag Oil Inc #3	1638 N San Fernando Blvd	Burbank	Los Angeles County Fire Department
LACoAR0023251	WORLD OIL MARKETING CO #25	2417 N SAN FERNANDO BLVD	BURBANK	Los Angeles County Fire Department
555	AT&T California - K3123	3001 Thornton Ave	Burbank	Los Angeles County Fire Department
174	BURBANK RECYCLE CENTER	500 S Flower St # A	Burbank	Los Angeles County Fire Department
LACoFA0012700	BURBANK OIL COMPANY, INC.	349 S GLENOAKS BLVD	BURBANK	Los Angeles County Fire Department
21	TOWER BURBANK OWNER, LLC	3900 W Alameda Ave Ste 100	Burbank	Los Angeles County Fire Department
589	BURBANK FIRE STATION 15	1420 W VERDUGO AVE	BURBANK	Los Angeles County Fire Department
9	CHEVRON	439 W ALAMEDA AVE	BURBANK	Los Angeles County Fire Department
26	BURBANK FIRE STATION 16	1600 N BEL AIRE DR	BURBANK	Los Angeles County Fire Department
205	Universal Service Station Inc	2005 N GLENOAKS BLVD	BURBANK	Los Angeles County Fire Department
674	UNITED #143	250 S GLENOAKS BLVD # B	BURBANK	Los Angeles County Fire Department
605	MAGNOLIA PARK SCS GASOLINE LCC	341 N VICTORY BLVD	BURBANK	Los Angeles County Fire Department
238	Rhys Tilleys Union 76	1401 N HOLLYWOOD WAY	BURBANK	Los Angeles County Fire Department
230	AVIMAX	800 N Hollywood Way	Burbank	Los Angeles County Fire Department
295	PUBLIC WORKS	124 S LAKE ST	BURBANK	Los Angeles County Fire Department
663	Contract Services Administration Trust Fund Building	2710 WINONA AVE	BURBANK	Los Angeles County Fire Department
5	SMOG PROS	201 W ALAMEDA AVE	BURBANK	Los Angeles County Fire Department
LACoFA0016866	BURBANK WATER AND POWER	164 W Magnolia Blvd	Burbank	Los Angeles County Fire Department
18	NBC WEST LLC	3000 W ALAMEDA AVE	BURBANK	Los Angeles County Fire Department
33	Providence St Joseph Medical Center	501 S Buena Vista ST	Burbank	Los Angeles County Fire Department
61	BURBANK FIRE STATION 14	2305 W BURBANK BLVD	BURBANK	Los Angeles County Fire Department
164	Hertz Rent-A-Car (1102-11A)	4521 EMPIRE AVE	BURBANK	Los Angeles County Fire Department
496	CHUCK MERCIER'S UNION 76	901 N SAN FERNANDO BLVD	BURBANK	Los Angeles County Fire Department
186	CARMAX #7126	1000 S FLOWER ST	BURBANK	Los Angeles County Fire Department
LACoFA0009842	ALAMO RENT A CAR	4529 W EMPIRE AVE	BURBANK	Los Angeles County Fire Department
LACoFA0006014	DISNEY ENTERPRISES, INC	500 S BUENA VISTA ST	BURBANK	Los Angeles County Fire Department
LACoFA0002074	TESORO (SHELL) 68509	181 W ALAMEDA AVE	BURBANK	Los Angeles County Fire Department
LACoFA0028280	AE COM	1705 N VICTORY PL	BURBANK	Los Angeles County Fire Department
602	TESORO (SHELL) 68507	400 N VICTORY BLVD	BURBANK	Los Angeles County Fire Department
LACoFA0040639	THE POINTE	2900 W ALAMEDA AVE # 100	BURBANK	Los Angeles County Fire Department
80	HWB AUTO DETAIL & WASH INC.	3600 W BURBANK BLVD	BURBANK	Los Angeles County Fire Department
LACoFA0042730	DR SMOG N LUBE	3701 W MAGNOLIA BLVD # 1	BURBANK	Los Angeles County Fire Department
658	DEBELL GOLF COURSE	1155 WALNUT AVE	BURBANK	Los Angeles County Fire Department
171	PENHALL COMPANY	255 S FLOWER ST	BURBANK	Los Angeles County Fire Department
239	Shawkat & Rima Inc.	1951 N HOLLYWOOD WAY	BURBANK	Los Angeles County Fire Department
229	BURBANK FIRE STATION 12	644 N HOLLYWOOD WAY	BURBANK	Los Angeles County Fire Department
LACoFA0013825	FAA - BUR ATCT	2821 N HOLLYWOOD WAY	BURBANK	Los Angeles County Fire Department
296	BURBANK CITY PARKS	126 S Lake St	Burbank	Los Angeles County Fire Department
AR0043504	AT&T California - K3100	280 E Palm Ave	Burbank	Los Angeles County Fire Department
670	ENTERPRISE RENT-A-CAR	3220 WINONA AVE	BURBANK	Los Angeles County Fire Department

LACoFA0022063	MEDIA CENTER CHEVRON	3701 W RIVERSIDE DR	BURBANK	Los Angeles County Fire Department
535	Costco Wholesale #677 (Gas Station)	1041 W Burbank Blvd	Burbank	Los Angeles County Fire Department
165	AVIS Rent a Car System, LLC	4527 EMPIRE AVE	Burbank	Los Angeles County Fire Department
694	Sprint Burbank POP CABRBB	100 S FLOWER ST # A	BURBANK	Los Angeles County Fire Department
690	G&M OIL CO., #74	140 E ALAMEDA AVE	Burbank	Los Angeles County Fire Department
691	Chevron (G&M #75)	2501 W OLIVE AVE	Burbank	Los Angeles County Fire Department
661	Warner Bros. Studio Facilities	4000 WARNER BLVD	BURBANK	Los Angeles County Fire Department
106	Sprint Burbank Switch CABRBA	3099 N CALIFORNIA ST	BURBANK	Los Angeles County Fire Department
LACoFA0019164	3500 PARTNERS LLC	3500 W Olive Ave Ste 101	Burbank	Los Angeles County Fire Department
LACoFA0047248	AvAirPros Services	2501 N Hollywood Way	Burbank	Los Angeles County Fire Department

Appendix G

Noise and Vibration Calculations

```
                        Roadway Construction Noise Model (RCNM),Version 1.1

Report date:             11/03/2021
Case Description:        Burbank Housing Element

                                ---- Receptor #1 ----

                                           Baselines (dBA)
Description                  Land Use        Daytime    Evening    Night
-----------                  --------        -------    -------    -----
50 Feet from Construction    Residential        65.0       65.0     65.0

                                     Equipment
                                     ---------
                               Spec    Actual    Receptor    Estimated
              Impact  Usage    Lmax    Lmax      Distance    Shielding
Description   Device   (%)     (dBA)   (dBA)      (feet)       (dBA)
-----------   ------  -----    -----   -----     --------    ---------
Excavator         No     40             80.7         50.0          0.0
Dozer             No     40             81.7         50.0          0.0
Jackhammer       Yes     20             88.9         50.0          0.0


                                     Results
                                     -------
                                                            Noise Limits (dBA)
                    Noise Limit Exceedance (dBA)

----------------------------------------------
----------------------------------------------
                        Calculated (dBA)         Day           Evening
Night              Day           Evening          Night
                        ----------------   --------------   -------------

--------------    --------------  --------------  --------------
Equipment                  Lmax     Leq        Lmax     Leq      Lmax     Leq      Lmax
  Leq       Lmax     Leq      Lmax     Leq     Lmax    Leq
----------------------  ------  ------     ------  ------  ------  ------  ------
------    ------  ------  ------  ------  ------  ------
Excavator                 80.7    76.7        N/A     N/A     N/A     N/A     N/A
  N/A       N/A     N/A     N/A     N/A     N/A     N/A
Dozer                     81.7    77.7        N/A     N/A     N/A     N/A     N/A
  N/A       N/A     N/A     N/A     N/A     N/A     N/A
Jackhammer                88.9    81.9        N/A     N/A     N/A     N/A     N/A
  N/A       N/A     N/A     N/A     N/A     N/A     N/A
               Total      88.9    84.2        N/A     N/A     N/A     N/A     N/A
  N/A       N/A     N/A     N/A     N/A     N/A     N/A
```

Groundborne Noise and Vibration Modeling

Notes

The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure. Last Updated: 09/29/2021

Variables	
V_{ref}	1E-06
Crest Factor (PPV/RMS)	4
Soil Type *(Choice: default, hard, or sands)*	default
n value	1.1

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Impact Pile Driver	0.644	112	0.398	25
Sonic Pile Driver	0.17	105	0.178	25
Vibratory Roller	0.21	94	0.050	25
Hoe Ram	0.089	87	0.022	25
Large bulldozer	0.089	87	0.022	25
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25
Jack hammer	0.035	79	0.009	25
Small bulldozer	0.003	58	0.001	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Impact Pile Driver	25	0.6440	112	0.398
Sonic Pile Driver	25	0.1700	105	0.178
Vibratory Roller	25	0.2100	94	0.050
Hoe Ram	25	0.0890	87	0.022
Large bulldozer	25	0.0890	87	0.022
Caisson drilling	25	0.0890	87	0.022
Loaded trucks	25	0.0760	83	0.014
Jack hammer	25	0.0350	79	0.009
Small bulldozer	25	0.0030	58	0.001

	Vibration Contours		
	Distance to (feet)		
Equipment	**0.100 PPV**	**72.0 VdB**	**0.0080 RMS**
Impact Pile Driver	136	1645	872
Sonic Pile Driver	40	791	419
Vibratory Roller	49	250	133
Hoe Ram	22	120	64
Large bulldozer	22	120	64
Caisson drilling	22	120	64
Loaded trucks	19	79	42
Jack hammer	10	52	28
Small bulldozer	1	6	3

Sources

California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual. April 2020. Available at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf
Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Imapact Assessment Manual. September 2018. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Groundborne Noise and Vibration Modeling

Notes
The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure. Last Updated: 09/29/2021

Variables	
V_{ref}	1E-06
Crest Factor (PPV/RMS)	4
Soil Type *(Choice: default, hard, or sands)*	default
n value	1.1

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Impact Pile Driver	0.644	112	0.398	25
Sonic Pile Driver	0.17	105	0.178	25
Vibratory Roller	0.21	94	0.050	25
Hoe Ram	0.089	87	0.022	25
Large bulldozer	0.089	87	0.022	25
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25
Jack hammer	0.035	79	0.009	25
Small bulldozer	0.003	58	0.001	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Impact Pile Driver	50	0.3004	105	0.186
Sonic Pile Driver	50	0.0793	98	0.083
Vibratory Roller	50	0.0980	87	0.023
Hoe Ram	50	0.0415	80	0.010
Large bulldozer	50	0.0415	80	0.010
Caisson drilling	50	0.0415	80	0.010
Loaded trucks	50	0.0355	76	0.007
Jack hammer	50	0.0163	72	0.004
Small bulldozer	50	0.0014	51	0.000

	Vibration Contours		
	Distance to (feet)		
Equipment	**0.100 PPV**	**72.0 VdB**	**0.0080 RMS**
Impact Pile Driver	136	1645	872
Sonic Pile Driver	40	791	419
Vibratory Roller	49	250	133
Hoe Ram	22	120	64
Large bulldozer	22	120	64
Caisson drilling	22	120	64
Loaded trucks	19	79	42
Jack hammer	10	52	28
Small bulldozer	1	6	3

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Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Imapact Assessment Manual. September 2018. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Groundborne Noise and Vibration Modeling

Notes
The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure. Last Updated: 09/29/2021

Variables	
V_{ref}	1E-06
Crest Factor (PPV/RMS)	4
Soil Type *(Choice: default, hard, or sands)*	default
n value	1.1

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Impact Pile Driver	0.644	112	0.398	25
Sonic Pile Driver	0.17	105	0.178	25
Vibratory Roller	0.21	94	0.050	25
Hoe Ram	0.089	87	0.022	25
Large bulldozer	0.089	87	0.022	25
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25
Jack hammer	0.035	79	0.009	25
Small bulldozer	0.003	58	0.001	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Impact Pile Driver	75	0.1923	102	0.119
Sonic Pile Driver	75	0.0508	95	0.053
Vibratory Roller	75	0.0627	84	0.015
Hoe Ram	75	0.0266	77	0.007
Large bulldozer	75	0.0266	77	0.007
Caisson drilling	75	0.0266	77	0.007
Loaded trucks	75	0.0227	73	0.004
Jack hammer	75	0.0105	69	0.003
Small bulldozer	75	0.0009	48	0.000

	Vibration Contours		
	Distance to (feet)		
Equipment	**0.100 PPV**	**72.0 VdB**	**0.0080 RMS**
Impact Pile Driver	136	1645	872
Sonic Pile Driver	40	791	419
Vibratory Roller	49	250	133
Hoe Ram	22	120	64
Large bulldozer	22	120	64
Caisson drilling	22	120	64
Loaded trucks	19	79	42
Jack hammer	10	52	28
Small bulldozer	1	6	3

Sources

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Groundborne Noise and Vibration Modeling

Variables	
V_{ref}	1E-06
Crest Factor (PPV/RMS)	4
Soil Type *(Choice: default, hard, or sands)*	default
n value	1.1

Notes

The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure. Last Updated: 09/29/2021

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Impact Pile Driver	0.644	112	0.398	25
Sonic Pile Driver	0.17	105	0.178	25
Vibratory Roller	0.21	94	0.050	25
Hoe Ram	0.089	87	0.022	25
Large bulldozer	0.089	87	0.022	25
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25
Jack hammer	0.035	79	0.009	25
Small bulldozer	0.003	58	0.001	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Impact Pile Driver	100	0.1402	99	0.087
Sonic Pile Driver	100	0.0370	92	0.039
Vibratory Roller	100	0.0457	81	0.011
Hoe Ram	100	0.0194	74	0.005
Large bulldozer	100	0.0194	74	0.005
Caisson drilling	100	0.0194	74	0.005
Loaded trucks	100	0.0165	70	0.003
Jack hammer	100	0.0076	66	0.002
Small bulldozer	100	0.0007	45	0.000

	Vibration Contours		
	Distance to (feet)		
Equipment	**0.100 PPV**	**72.0 VdB**	**0.0080 RMS**
Impact Pile Driver	136	1645	872
Sonic Pile Driver	40	791	419
Vibratory Roller	49	250	133
Hoe Ram	22	120	64
Large bulldozer	22	120	64
Caisson drilling	22	120	64
Loaded trucks	19	79	42
Jack hammer	10	52	28
Small bulldozer	1	6	3

Sources

California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual. April 2020. Available at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf

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Groundborne Noise and Vibration Modeling

Variables	
V_{ref}	1E-06
Crest Factor (PPV/RMS)	4
Soil Type *(Choice: default, hard, or sands)*	default
n value	1.1

Notes

The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure. Last Updated: 09/29/2021

	Reference Level Inputs			
Equipment	**PPV_{ref} (in/sec)**	**Lv_{ref} (VdB)**	**RMS_{ref} (in/sec)**	**Reference Distance**
Impact Pile Driver	0.644	112	0.398	25
Sonic Pile Driver	0.17	105	0.178	25
Vibratory Roller	0.21	94	0.050	25
Hoe Ram	0.089	87	0.022	25
Large bulldozer	0.089	87	0.022	25
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25
Jack hammer	0.035	79	0.009	25
Small bulldozer	0.003	58	0.001	25

	Vibration Level at Receiver			
Equipment	**Distance (feet)**	**PPV_x (in/sec)**	**Lv_x (VdB)**	**RMS_x (in/sec)**
Impact Pile Driver	125	0.1097	97	0.068
Sonic Pile Driver	125	0.0289	90	0.030
Vibratory Roller	125	0.0358	79	0.009
Hoe Ram	125	0.0152	72	0.004
Large bulldozer	125	0.0152	72	0.004
Caisson drilling	125	0.0152	72	0.004
Loaded trucks	125	0.0129	68	0.002
Jack hammer	125	0.0060	64	0.002
Small bulldozer	125	0.0005	43	0.000

	Vibration Contours		
	Distance to (feet)		
Equipment	**0.100 PPV**	**72.0 VdB**	**0.0080 RMS**
Impact Pile Driver	136	1645	872
Sonic Pile Driver	40	791	419
Vibratory Roller	49	250	133
Hoe Ram	22	120	64
Large bulldozer	22	120	64
Caisson drilling	22	120	64
Loaded trucks	19	79	42
Jack hammer	10	52	28
Small bulldozer	1	6	3

Sources

California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual. April 2020. Available at: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf
Federal Transit Administration (FTA). 2018. Transit Noise and Vibration Imapact Assessment Manual. September 2018. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

Notice of Availability

To: Public Agencies and Other Interested Parties

From: City of Burbank
Community Development Department
Planning Division
150 North Third Street
Burbank, California 91502

Subject: Notice of Availability of a Draft Environmental Impact Report

Project Title: Burbank Housing and Safety Element Update

Dated: January 26, 2022

This is a Notice of Availability to inform your agency that the City of Burbank Community Development Department has released the Draft Environmental Impact Report (EIR) for the proposed updates to the Burbank Housing and Safety elements (hereafter referred to as "Housing and Safety Element Update" or "Project") for a 45-day review period beginning on **January 26, 2022**, and ending on **March 31, 2022**.

The Housing and Safety Element Update involves an update to the Housing Element of the City's Burbank2035 General Plan for the 2021-2029 planning period, along with minor updates to the Safety, Land Use, Open Space and Conservation, Air Quality and Climate Change, Noise, and Mobility Elements, and incorporation of environmental justice policies into the Burbank2035 General Plan as required by State law. The Project establishes programs, policies and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community; provides evidence of the City's ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG); and identifies any rezoning program needed to reach the required housing capacity.

The Draft EIR has been prepared in compliance with the California Environmental Quality Act of 1970 (CEQA) and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.).

The EIR assesses potential impacts related to the following environmental topics: Air Quality, Biological Resources, Cultural Resources/Tribal Cultural Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Noise, Population and Housing, Public Services, Recreation, Transportation, and Utilities/Service Systems. Existing regulations and mitigation measures are identified in the Draft EIR that would reduce most of the impacts of the proposed Project to a less-than-significant level. However, some significant environmental effects would occur despite implementation of mitigation measures with respect to Transportation and Utilities/Service Systems.

The Draft EIR is available for review online at:

https://www.burbankhousingelement.com/

Hard copies are available for review at the City of Burbank Community Development Department and at all local libraries.

Draft EIR Review Locations
City of Burbank Community Services Building, 1st Floor Community Development Department 150 North Third Street, Burbank, California 91510
Burbank Central Library 110 North Glenoaks Boulevard Burbank, California 91502
Buena Vista Branch Library 300 North Buena Vista Street Burbank, California 91505
Northwest Branch Library 3323 West Victory Boulevard Burbank, California 91505
City Website https://www.burbankhousingelement.com/

Please provide any comments your agency may have on this Draft EIR in writing no later than 5:00 PM on March 31, 2022, to:

Shipra Rajesh, Associate Planner
Community Development Department-Planning Division
150 North Third Street
Burbank, California 91502

You may also email your response to SRajesh@burbankca.gov. Please provide the name of a contact person at your agency.

The Burbank Planning Board will hold a public meeting on March 14, 2022, at 6:00 p.m. to receive public comments on this Draft EIR. The meeting will be held via video/telephone conference. Instructions on how to view the meeting and submit comments during the meeting will be posted online prior to the meeting date at the following web address:

https://www.burbankca.gov/web/city-clerks-office/meeting-agendas-and-minutes.

Date: January 26, 2022 Signature: Shipra Rajesh

Shipra Rajesh
Title: Associate Planner
Telephone: (818) 238-5250

Burbank Housing and Safety Element Update - Project Description

The Housing and Safety Element Update involves an update to the Housing Element for the 2021-2029 planning period, along with minor updates to the Safety, Land Use, Open Space and Conservation, Air Quality and Climate Change, Noise, and Mobility Elements, and the incorporation of environmental justice policies into the Burbank2035 General Plan as required by State law. The Project would apply to the entire geographic area located within the boundaries of the City of Burbank, which encompasses 17.1 square miles. **Figure 1** and **Figure 2** included in this notice illustrate the location of the Project in a regional and local context. The proposed Housing Element Update establishes programs, policies and actions to further the goal of meeting the existing and projected housing needs of all household income levels of the community; provides evidence of the City's ability to accommodate the Regional Housing Needs Assessment (RHNA) allocation through the year 2029, as established by the Southern California Association of Governments (SCAG); and identifies any rezoning program needed to reach the required housing capacity.

The Project will provide a framework for introducing new housing at all levels of affordability that is within access to transit, major City employment centers, jobs, services, and open spaces. New housing units may occur anywhere in the City where residential uses are permitted, as well as in areas that may be rezoned in the future to allow for multi-family residential and mixed use residential of adequate density to meet State-required housing production and affordability targets. Through its identification of sites for future development and implementing housing programs, the updated Housing Element will lay the foundation for achievement of the City's fair share housing needs for approximately 10,456 additional units.

The purpose of the Safety Element Update is to ensure consistency with the Housing Element Update and to comply with recent State legislation and guidelines (including Assembly Bill 162, Senate Bill 1241, Senate Bill 99, Assembly Bill 747, Senate Bill 1035 and Senate Bill 379). Technical amendments will be made to the Safety Element to achieve compliance with State, regional, and local policies and guidelines. The technical amendments will incorporate data and maps, address vulnerability to climate change, incorporate policies and programs from the City's Hazard Mitigation Plan and the Greenhouse Gas Reduction Plan, as well as partial or full integration of other City documents and programs (including but not limited to: Ready Burbank and the Emergency Survival Program). The Safety Element amendments will be submitted to the California Geological Survey, California Office of Emergency Services, California State Board of Forestry and Fire Protection, and Federal Emergency Management Agency for review.

Senate Bill 1000 (SB 1000) states that revisions or adoption of two or more elements of a general plan on or after January 1, 2018 trigger a requirement to "adopt or review the Environmental Justice Element, or the environmental justice goals, policies, and objectives in other elements." Environmental justice goals, policies, and objectives must aim to reduce health risks to disadvantaged communities (DACs), promote civil engagement, and prioritize the needs of these communities. There are several designated DACs identified in central, northwest, and southeast Burbank. These seven census tracts have overall scores that meet or exceed the minimum criteria for DAC designation based on pollution burden and population characteristics. As mandated under SB 1000, the Safety Element update will consider strategies to reduce pollution exposure, promote public facilities, promote food access, promote safe and sanitary homes, promote physical activity, reduce unique or compounded health risks, promote civic engagement, and prioritize the needs of these disadvantaged communities.

Figure 1 Regional Location

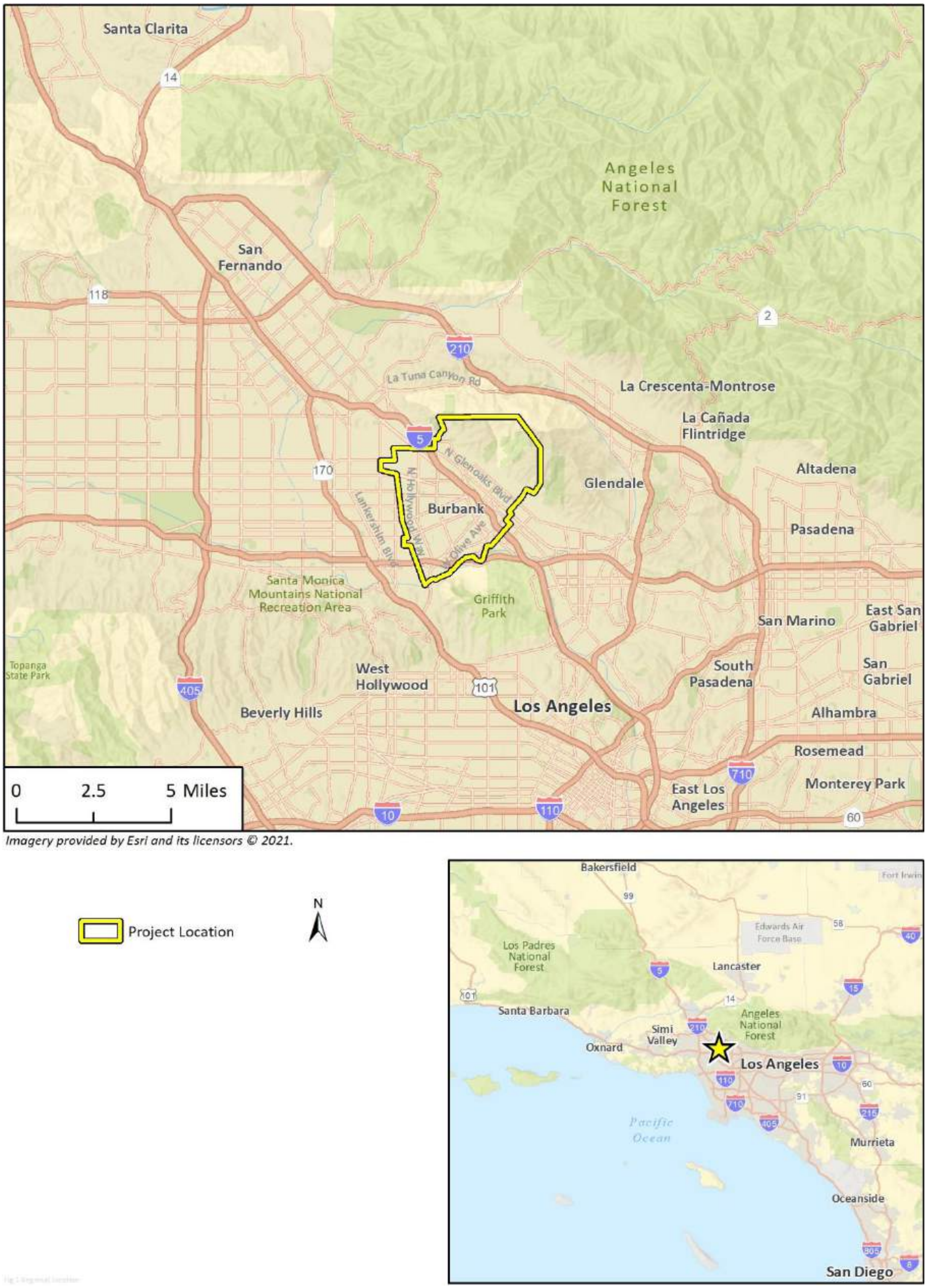

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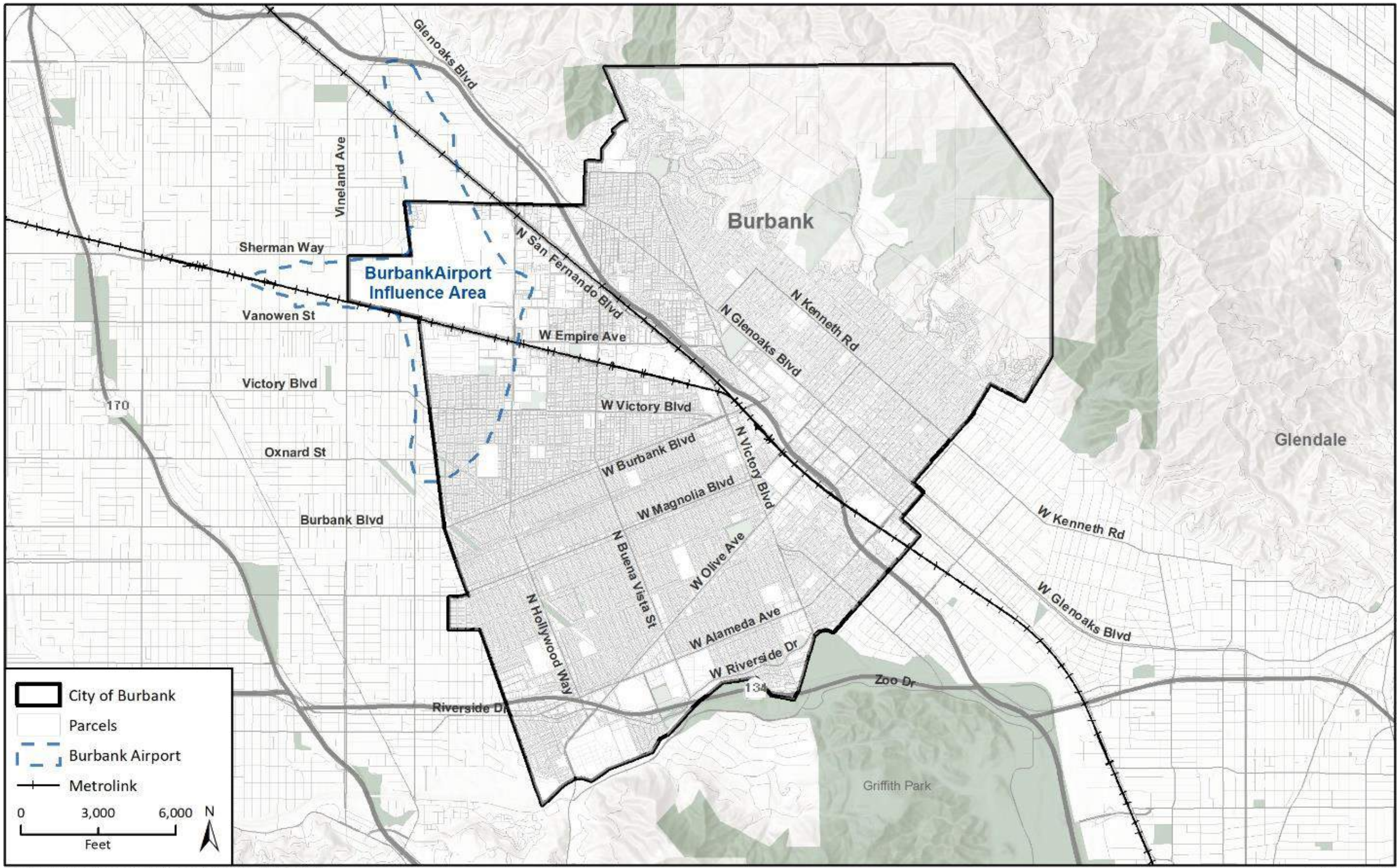
Figure 1 Project Location



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FigX City of Burbank