Salinas Airport Development Lease Project

Initial Study – Mitigated Negative Declaration

prepared by

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October 2019

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Initial Study

1. Project Title

Salinas Airport Development Lease Project

2. Lead Agency Name and Address

City of Salinas
Community Development Department
65 West Alisal Street, 2nd Floor
Salinas, California 93901

3. Contact Person and Phone Number

Thomas Wiles, Senior Planner
831-758-7206
thomaswi@ci.salinas.ca.us

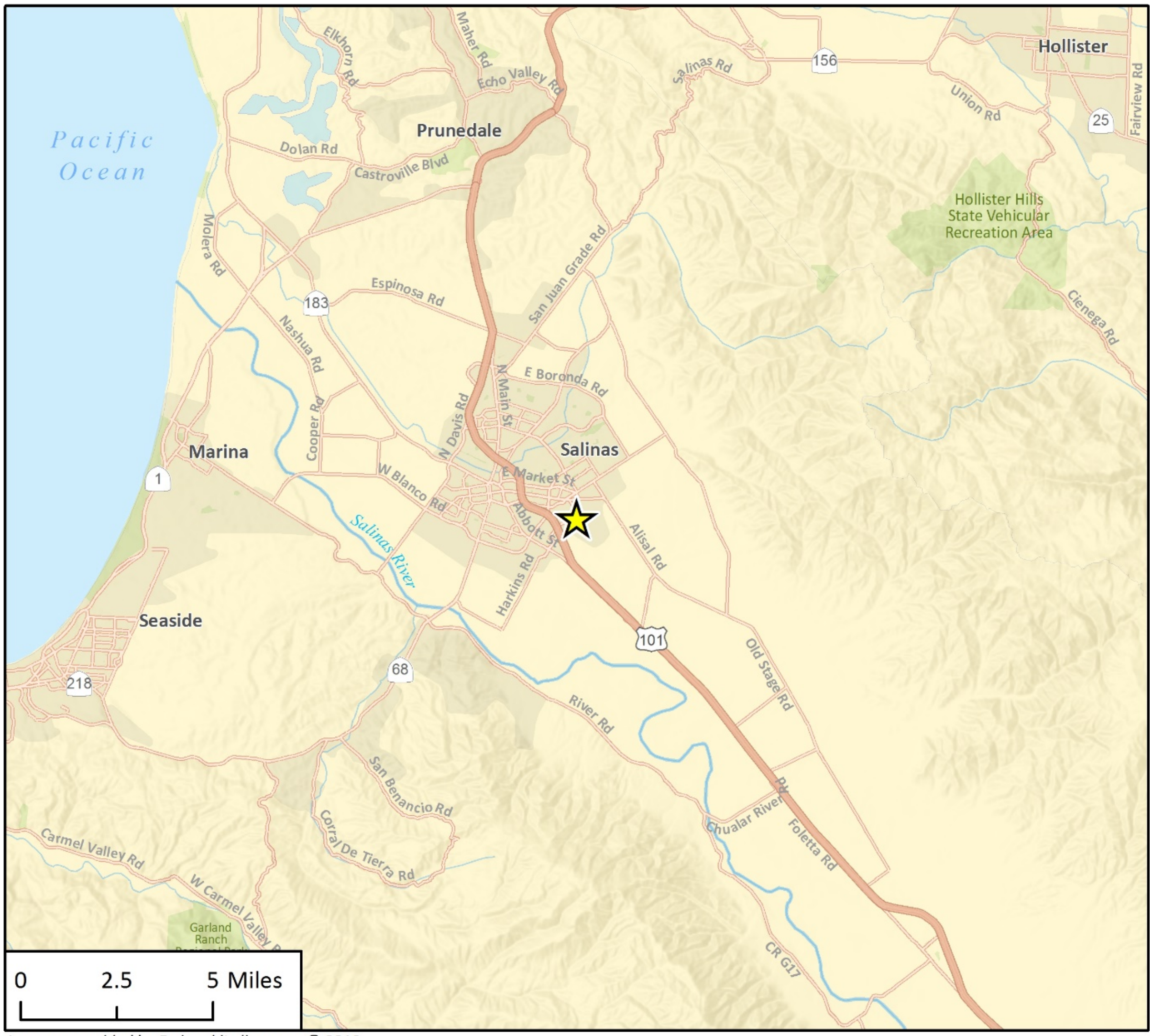
4. Project Location

The project is located along the 100-500 block of Airport Boulevard in the City of Salinas in Monterey County. The project site is bounded by Airport Boulevard to the northwest, Mortensen Avenue to the southeast, Skyway Boulevard to the northeast, and Mercer Way to the southwest, and is defined by Assessor's Parcel Number 003-862-001-000. The site is part of the Salinas Municipal Airport, although it is located outside of the controlled (fenced) portion of the Airport. The site contains Jeffery Avenue and Anderson Avenue, which both run southwest to northeast between Mercer Way and Skyway Boulevard; these are not public streets and are closed to vehicular traffic. An unnamed paved road/driveway connects Jeffery Avenue and Anderson Avenue approximately midway across the project site.

The site is relatively flat, vacant, mostly undeveloped land with minimal development including existing curb and gutter located along the roadways surrounding the site, internal paved driveways, a storage shed structure, and PG&E transmission lines which are located across the property. Various existing public utilities are available in the public streets surrounding the site. There is an abandoned well north of Mortensen Avenue and midway between Skyway Boulevard and Mercer Way, which has been filled with concrete and associated pumps removed.

Figure 1 shows the regional location of the project site and Figure 2 shows an aerial view of the project site and immediate surroundings.

Figure 1 Regional Location



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★ Project Location

N

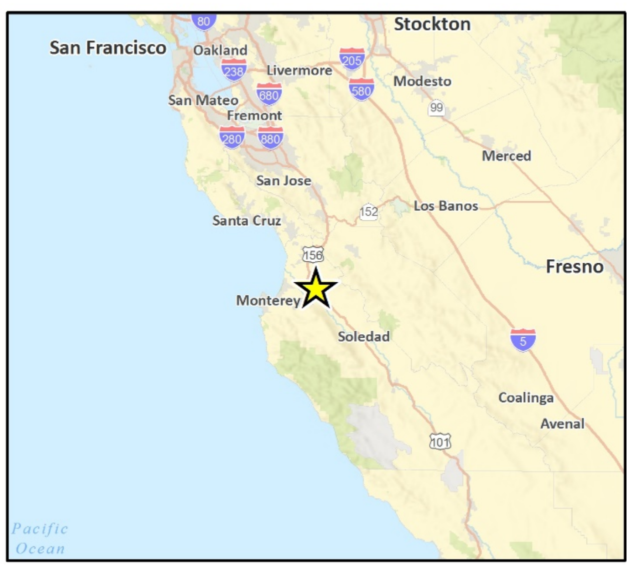

Figure 2 Project Location

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Fig 2 Project Location

5. Project Sponsor's Name and Address

City of Salinas
Andrew Myrick, Economic Development Manager
200 Lincoln Avenue
Salinas, California 93901

6. General Plan Designation

The General Plan land use designation for the project site is Public/Semipublic. The General Plan allows the following land uses within the Public/Semipublic category: schools, hospitals, libraries, utilities, airport (precise uses as determined by the Airport Master Plan) and government institutions. The maximum floor area ratio within this designation is 0.40 (City of Salinas 2002).

7. Zoning

The project site is zoned as Public/Semipublic (PS) and is within the Airport Overlay (AR) District (City of Salinas 2012).

The Salinas General Plan identifies that properties designated as Public/Semipublic are appropriate for "schools, hospitals, libraries, utilities, airport (precise uses for the airport property will be defined in the Airport Master Plan), and government institutions." The proposed lease is largely consistent with the Airport Master Plan, as noted below.

Section 37-10.400 of the Salinas Municipal Code (SMC) defines Public and Semipublic Uses as "a class of uses generally open to the public and maintained and supported by public or nonprofit agencies or organizations and which are of a recreational, civic, educational, religious, institutional, or cultural nature." The Public/Semipublic zoning designation allows for the development of the following uses with no permits required:

- Disaster shelters
- Accessory utilities
- Emergency shelters
- Minor telecommunications facilities

This zoning also allows for the following uses with either a Conditional Use Permit, Site Plan Review, or Temporary Use of Land Permit:

- Airports and heliports
- Outdoor facilities
- Clubs and lodges
- Day care centers
- Hospitals
- Park and recreation facilities
- Religious assembly
- Airport-related uses
- Airports
- Convalescent hospital and nursing homes
- Detention facilities
- Major maintenance and repair services
- Parking lots and structures
- Public/private schools
- Commercial recreation and entertainment
- Cemeteries
- Cultural institutions
- Government offices
- Open space
- Public safety facilities
- Major telecommunications facilities

Additionally, the City Council will soon consider a proposed Zoning Code Amendment to allow residential uses in the PS District; however, under the proposed Zoning Code Amendment, residential uses would not be allowed on the project site because it is located within the Airport Overlay District.

Pursuant to SMC Section 37-10.070, as the project site is on land owned by the City of Salinas, uses in addition to those identified above may be considered for the site provided that the City Council makes the determination that the property is “developed and used for such public purposes and in such a manner as…to be proper and in the public interest.” Allowable uses for the project site would therefore be defined by the Ground Lease (as defined below).

The Airport Overlay District defines the Airport Area of Influence and Affected Parcels surrounding the Salinas Municipal Airport. Per Section 37-40.430 of the SMC, development review applications within the Airport Overlay District are subject to review by the Public Works Director to ensure conformance with the SMC.

8. Setting and Surrounding Land Uses

The proposed project site includes approximately 13.25 acres of vacant land between Airport Boulevard and the Salinas Municipal Airport. No major structures are present at the project site, other than a 600-square foot storage shed and several utility poles. The project site is bounded by Airport Boulevard to the northwest, Mortensen Avenue to the southeast, Skyway Boulevard to the northeast and Mercer Way to the southwest. Jeffery Avenue and Anderson Avenue run through the project site. The project site is relatively flat with no notable topographic variations, dominated by seasonal grasses and seven total trees, and is mostly unpaved, with the exception of internal roadways. Although the project site is currently vacant, the location was historically used for agricultural and military purposes. Prior to 1937, aerial imagery shows that the location was under agricultural cultivation. The project site was initially developed in the 1940s by the US Army during World War II as the Salinas Army Airfield. Structures at the project site associated with the military were demolished before 1982. Since then, the site appears to have been used only for storage ancillary to the Airport, temporary parking, and a water well which has been removed and capped.

The project site is immediately adjacent to land zoned as Public/Semipublic to the west, south, east, and northeast, and alternating Public/Semipublic and Industrial-Business Park to the north and northwest. The surrounding vicinity also includes area zoned for Parks to the north and northeast, Open Space along Alisal Creek to the west, and Residential Low Density beyond the Open Space designation to the west. Land immediately to the south, east, and west of the project site is occupied by the Salinas Municipal Airport and to the north is a small business park. The airport includes hangars and storage facilities, aviation business operations, and various airport-related offices adjacent to the site. The small business park includes administrative offices for a health clinic, an airport RV storage facility, Monterey County Mosquito Abatement District offices, and the offices of Ramco Enterprises and Ramirez Harvest Inc. Surface parking is present within this business park. Other developments in the surrounding vicinity include the Elks Lodge #614, Salinas Fairways Golf Course, an Industrial Business Park just south of the Airport’s fenced area, and single-family residential homes located in a neighborhood oriented along Fairview Avenue west of the site. Nearby environmental features include a section of Alisal Creek, which flows south to north and is located approximately 0.25 mile west of the project site, and undeveloped public/semipublic-designated land along Airport Boulevard located between US Highway 101 and Elks Lodge #614.

Description of Project

The project sponsor would lease approximately 13.25 acres of vacant land (project site) from the City (the “Ground Lease”), and in turn lease approximately 5.72 acres of the project site back to the City of Salinas for use as a Public Works Corporation Yard. The Public Works Corporation Yard would provide vehicle and equipment repair and storage, administrative support, and other operations related to the maintenance of public facilities and is anticipated to be located in the southwest portion of the project site. The remainder of the site (approximately 7.53 acres) would be developed to accommodate light industrial and/or warehouse uses, with a maximum building square footage of no more than 40 percent of the site area (approximately 130,332 square feet).

Allowable uses for the site would be specified in the Ground Lease to include minor telecommunications facilities, indoor vehicle storage, limited industry, laboratories, warehousing, maintenance and repair services (city corporation yard), and research and development services. The site would be developed in accordance with the Development Regulations and Design Standards of the City’s Industrial – Business Park (IBP) Zoning District. Surface parking, landscaping, lighting, and other site improvements would be provided as mandated by the City.

The project would involve removing Jeffery Avenue, Anderson Avenue, the unnamed roadway between Jeffery Avenue and Anderson Avenue, the small storage shed, existing trees, and any other existing facilities on site.

Infrastructure Improvements

The project would relocate existing aboveground PG&E transmission lines, which are located throughout the site, two of which run north-south about mid-site and two additional lines which run east-west from Skyway Boulevard to Mercer Road west of the project site. The project would also cap pre-existing water lines on the site, remove the non-operational well, and improve stormwater drainage features.

Site Access

The property has street access from all sides. Most traffic runs along Airport Boulevard which is a connecting street from US Highway 101 and western Salinas to the airport and eastern Salinas. Skyway Boulevard is the primary access street to the Salinas airport terminal. Public parking for the airport is located on the east side of Skyway Boulevard across from the property.

Grading and Construction

To accommodate the proposed uses of the project site, the entire site would be graded, and existing features would be removed. This would be followed by the construction of paved parking areas, fencing, and up to 131,202-square-foot industrial-use buildings. Future construction may be conducted in phases.

Lead Agency Permits and Approvals

The project requires City approval of the proposed Ground Lease of the site to the project sponsor. Future development of the site with paved parking areas and industrial-use buildings would require building and grading permits.

9. Other Public Agencies Whose Approval is Required

The following agency permits and approvals would be required:

- State Water Resources Control Board: National Pollutant Discharge Elimination System (NPDES) Construction General Permit
- Federal Aviation Administration: Release of Restrictions for use of land for non-aeronautical purposes.

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?

On August 30, 2019, the City of Salinas, pursuant to Public Resources 21080.3.1 and AB 52 sent via certified mail notification letters to seven (7) California Native American Tribes that are traditionally and culturally affiliated with the project site requesting to contact the City within 30-days of the letter to schedule a tribal consultation. The letter was sent to the Amah Mutsun Tribal Band of Mission San Juan Batista, Amah Mutsen Tribal Band (two (2) letters), Coastanoan Rumsen Carmel Tribe, Indian Canyon Mutsun Tribe of Coastanoan, Ohlone Coastanoan-Esselen Nation, Torres Martinez Desert Cahuilla Indians, and the Xolon Salinan Tribe.

On September 23, 2019, Louise J. Miranda Ramirez, Tribal Chairwoman of the Ohlone/Costanoan-Esselen Nation requested a tribal consultation pursuant to Public Resources Code Section 21080.3.1. On October 8, 2019, City staff held a tribal consultation on the proposed project at the Salinas Permit Center with the Ohlone/Coastanoan-Esselen Nation. During the consultation, the Ohlone/Coastanoan-Esselen Nation requested that copies of all applicable archaeological reports and surveys concerning the proposed project, including subsurface testing and presence/absence testing should be provided to them for review. In addition, they requested that if any tribal cultural resource is discovered on the project site, that a monitor from the Ohlone/Coastanoan-Esselen Nation should be provided. In response, staff will provide copies of all applicable archaeological reports and surveys concerning the proposed project. In addition, the proposed Mitigation Measures require that in the event that any tribal cultural resources should be located on the project site, that a monitor from the Ohlone/Coastanoan-Esselen Nation shall be provided (see Tribal Cultural Resources).

Additional requests for tribal consultation on the proposed project were not received on this project.

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 & 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.

Signature	Date
Printed Name	Title

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. 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?

The City of Salinas General Plan does not identify any specific scenic vistas within the city. There are mountains ranges to the southeast and east of Salinas that are visible from the project site. However, the mountains are not an identified scenic vista, and due to height limitations on the site, views would not be entirely obscured. Additionally, views of the mountain ranges from public roads in Salinas already include structures and parking areas in the foreground.

The proposed project would facilitate the construction of structures and parking areas on the project site which would be similar in size and scale to existing one- to three-story structures and parking areas surrounding the project site, which include the Salinas Municipal Airport, hangers and storage facilities, as well as a small business park, and surface parking Thus, the proposed project would not substantially alter views of scenic mountain vistas. Impacts would be less than significant.

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?*

In Monterey County, State Route (SR) 68 is eligible for the State Scenic Highway System, and the portion of SR 68 from SR 1 to the Salinas River is an Officially Designated State Scenic Highway. SR 68 terminates at its junction with US Highway 101, approximately 1.3 miles from the project site. Due to surrounding development, the project site is not visible from SR 68; thus, the project would not substantially damage scenic resources within a scenic highway. Furthermore, the project site does not contain any protected trees, rock outcroppings, or historic structures. Therefore, because the site is not within or visible from a State Scenic Highway, the proposed project would have no impact to scenic resources within a State Scenic Highway.

NO IMPACT

c. *Would the project 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 project site is relatively flat and mostly undeveloped with ruderal/non-native weedy vegetation cover and several scattered and isolated trees, as described in the Section 4, *Biological Resources*. The site is routinely mowed, and development on-site consists of internal paved roadways, a storage shed, and PG&E utility lines. Given the relatively flat topography of the project area and existing structures in the surrounding area, views of the project site are generally not possible from more distant locations in the city because they are obstructed by buildings. Thus, the project site is most readily viewed from the adjacent roadways, including Airport Boulevard, Mercer Way, Mortensen Avenue, and Skyway Boulevard. The existing views from these roadways in proximity to the project site are comprised of parcels developed with light industrial buildings and offices, as well as airport-related buildings, such as hangars and terminals, as shown in Figure 3.

The existing development visible from these roadways is generally consistent with the underlying Public/Semipublic (PS), Airport Overlay District (AR), and Industrial-Business Park (IBP) zoning. There are also vacant areas visible from these roadways that appear similar to existing conditions on the project site.

The project would alter the visual character of the site by converting a mostly undeveloped vacant lot into new development with structures and parking areas. Construction of the project would include removal of the existing roadways, utility poles, ground vegetation and some trees. While the proposed project would change the visual character of the site from vacant to more developed, the proposed development would be similar in character to the existing surrounding development.

The project site is in an urbanized area, and as discussed in Section 11, *Land Use and Planning*, the proposed lease between the project sponsor, Salinas Airport, and the City of Salinas, as well as subsequent development, would be consistent with the City of Salinas General Plan and the Airport Overlay District zoning ordinance; therefore, visual character and quality would not be substantially degraded. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

Figure 3 Site Photographs

Photo 1: Looking northwest from the east-central area of the project site

Photo 2: Looking northeast from the southeast corner of the project site

Photo 3: Looking southwest from the southeastern border of the project site

Photo 4: Looking east from the western portion of the project site

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The project site is currently vacant and there are no light sources on-site. The proposed project would allow for development of the site consistent with the Development Regulations and Design Standards of the IBP Zoning District and the AR Overlay District. Potential new development would include buildings and parking areas. Buildings and parking areas would have exterior lighting for security and safety, and roadways would have street lights in accordance with City requirements. The PS and Airport Overlay Zoning District would also allow for telecommunications equipment to be constructed on-site, and telecommunications equipment could include exterior lighting. Because the site is currently undeveloped, the project would generate a new source of light.

Existing development in the project area surrounding the site, such as the light industrial and office uses on the north side of Airport Boulevard, include exterior lights. Additionally, airport buildings and runways include lighting for safety and for aircraft operations. These lights contribute to illumination of the night sky and affect nighttime views in the project area. The additional lights that would be added as a result of proposed development at the project site would be an incremental increase in nighttime lighting. Outdoor lights installed on the project site would be required to conform with the outdoor lighting standards set forth in Section 37-50.480 of the Salinas Municipal Code. Section 37-50.480 of the Salinas Municipal Code requires that outdoor lighting be shielded to not illuminate upwards and that the light pole heights be limited. Because the project site is located within the Airport Zoning Overlay District, outdoor lighting would also be subject to the provisions of Municipal Code Chapter 37, Article IV, Division 7: Airport (AR) Overlay District. These provisions to limit light pole heights and require shielding would ensure that lighting does not interfere with airport operations.

Parking on the site, including City vehicles stored at the proposed Public Works Corporation Yard, would contribute new sources of glare in the project area. Depending on the final design of structures, building exteriors may also contribute glare, particularly windows and glass components. However, building windows would comply with Title 24 Energy Standards by providing UV protection with polarization to reduce light and glare onto adjacent uses. Conformance to the City’s outdoor lighting standards, the Airport Overlay District zoning code, and Title 24 would reduce potential light and glare impacts to a less than significant level. Impacts would be less than significant.

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?

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?

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?*

The project site is located on Urban and Built-Up Land, per the Department of Conservation's (DOC) Important Farmland Finder (DOC 2016a). The project site is not identified as any farmland type, it is not enrolled in a Williamson Act contract (DOC 2016b), and it does not support forest land or resources. The project site is not located on or adjacent to agricultural land or forest land and the proposed project would not involve any development that could result in the conversion of farmland to non-agricultural uses. The project site is currently undeveloped and located immediately adjacent to the Salinas Municipal Airport. For these reasons, the project would have no impact with respect to conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use; conflict with existing agricultural zoning or Williamson Act contracts; result in the loss of forest land or conversion of forest land to non-forest use; or other conversion of farmland to non-agricultural use.

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?	☐	☐	■	☐

Existing Air Quality Setting and Attainment

The project site is located in the North Central Coast Air Basin (NCCAB), which consists of Monterey, San Benito, and Santa Cruz counties. The NCCAB covers an approximately 5,159 square mile area located within the central coast of California and is bounded by mountains to the north and east. The Monterey Bay Air Resources District (MBARD) is the designated air quality control agency for the Basin. Both the U.S. Environmental Protection Agency (U.S. EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant. As the local air quality management agency, MBARD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards.

Depending on whether or not the standards are met or exceeded, the Basin is classified as being in "attainment" or "nonattainment." Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The NCCAB currently has State designation of nonattainment for ozone and PM_{10}, and is either Unclassified or Attainment for all other criteria pollutants (CARB 2017a). The health effects associated with criteria pollutants for which the Basin is in non-attainment are described in Table 1.

Table 1 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Suspended particulate matter (PM_{10})	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).

Source: U.S. EPA 2018

Air Quality Management

The California Clean Air Act requires each nonattainment district in the State to adopt a plan showing how the State Ambient Air Quality Standard (AAQS) for ozone would be met in their area of jurisdiction. MBARD adopted the 2012-2015 Air Quality Management Plan (AQMP) in order to have the region make progress toward meeting the State ozone standard. Reducing NO_x emissions is crucial for reducing ozone formation. Seeing that the primary source of NO_x emissions are from mobile sources, the AQMP includes measures to reduce NO_x emissions, focusing on mobile sources.

Air Emission Thresholds

The MBARD *CEQA Air Quality Guidelines* provides a list of applicable construction and operation air quality emissions thresholds, as well as a list of mitigation measures to incorporate in circumstances where emissions are above applicable thresholds (MBARD 2008). Table 2 presents MBARD's significance thresholds for construction (daily) and operational (annual)-related criteria air pollutants and precursor emissions. These represent levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the Basin's existing air quality conditions. For the purposes of this analysis, the project would result in a significant impact if construction or operational emissions would exceed the thresholds shown in Table 2.

Table 2 Air Quality Thresholds of Significance

Pollutant	Source	Threshold of Significance
Construction Impacts		
PM_{10}	Direct	82 lbs/day[1]
Operational Impacts		
VOC	Direct and Indirect	137 lbs/day
NO_X	Direct and Indirect	137 lbs/day
PM_{10}	On-site	82 lbs/day[2]
CO	N/A	LOS at intersection/road segment degrades from D or better to E or F or V/C ratio at intersection/road segment at LOS E or F increases by 0.05 or more or delay at intersection at LOS E or F increases by 10 seconds or more or reserve capacity at unsignalized intersection at LOS E or F decreases by 50 or more
	Direct	550 lbs/day[3]
SO_X, as SO_2	Direct	150 lbs/day

Notes: lbs/day = pounds per day; PM_{10} = particulate matter with a diameter of 10 micrometers or less; VOC = volatile organic compounds (also referred to as ROG, or reactive organic gases); NO_X = oxides of nitrogen; CO = carbon monoxide; SO_X = oxides of sulfur; SO_2 = sulfur dioxide

[1] This threshold only applies if construction is located nearby or upwind of sensitive receptors. In addition, a significant air quality impact related to PM_{10} emissions may occur if a project uses equipment that is not "typical construction equipment" as specified in Section 5.3 of the MBARD CEQA Guidelines.

[2] The District's operational PM_{10} threshold of significance applies only to on-site emissions, such as project-related exceedances along unpaved roads. These impacts are generally less than significant. For large development projects, almost all travel is on paved roads, and entrained road dust from vehicular travel can exceed the significance threshold.

[3] Modeling should be undertaken to determine if the DVSP would cause or substantially contribute (550 lbs/day) to exceedance of CO ambient air quality standards (AAQS). If not, the DVSP would not have a significant impact.

Source: MBARD 2008

Methodology

This air quality analysis conforms to the methodologies recommended in the MBARD's CEQA Air Quality Guidelines (2008). The project's construction and operational emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. CalEEMod uses project-specific information, including the proposed land uses, square footages of each use (e.g., public works corporation yard and warehouse), and project location to estimate construction and operational emissions from new development. Emissions for the project were modeled based on the project description detailed in the beginning of this report. The complete CalEEMod modeling output is provided in Appendix A.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

A project could be inconsistent with the AQMP if it would generate population, housing, or employment growth exceeding forecasts used in the development of the AQMP. The Association of Monterey Bay Areas Governments (AMBAG) is the regional planning agency for Monterey, San Benito, and Santa Cruz counties, and addresses regional issues relating to transportation, economy, community development, and environment. With regard to air quality planning, AMBAG has prepared the 2040 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS), a long-range transportation plan that uses growth forecasts to project trends for regional population, housing and employment growth out to 2040 to identify regional transportation strategies to address mobility needs. These growth forecasts form the basis for the land use and transportation control portions of the 2016 AQMP.

The employment growth forecasts in AMBAG's 2040 MTP/SCS estimate that the number of jobs in Salinas would be 76,294 in 2040, up 7,024 jobs from a job number of 67,270 in 2020. The project would involve the development of 5.72 acres of the project site for use as a Public Works Corporation Yard. The remainder of the site (approximately 7.53 acres) would be developed to accommodate up to 131,202 square feet of light industrial/warehouse uses. As shown in Table 3, using employee rates per square footage/acre for warehouse from the Employee Density Report produced by the Southern California Association of Governments (SCAG), the proposed project could result in approximately 288 employees.

Table 3 Commercial Employee Generation Rates

Land Use	Employee Rate	Proposed Size	Total Employees
Warehouse	814/sf	130,332 sf	160
Other Retail/Services[1]	21.89/acre	5.72 acre	126
Total			**286**

Sf = square feet

[1] The land use used in the SCAG study most applicable to a Corporation Yard use

Source: Table 12A (SCAG 2001).

This increase of 286 jobs would be within the AMBAG's projected 2040 employment increase of 7,024 from 2020 for Salinas. Therefore, the project would not cause the area to exceed the regional growth forecasts and would not conflict with the implementation of the AQMP. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?*

The project would result in temporary construction emissions, including removing the existing on-site paving, site preparation and grading, building construction, paving, and architectural coating of the proposed structures. Construction activities have the potential to generate fugitive dust (PM_{10}) through grading and from the exposure of soil to wind erosion and dust entrainment. In addition, exhaust emissions associated with heavy construction equipment and worker vehicles would potentially degrade regional air quality.

Long-term emissions associated with operational impacts would include emissions from natural gas and electricity use for space and water heating and landscape maintenance equipment and architectural coating associated with on-site development (area sources), and mobile emissions from traffic generated by the project. Operational emissions could have the potential to exceed MBARD significance thresholds and could potentially expose nearby sensitive receptors to pollution.

Pursuant to CEQA Guidelines Section 15064(h)(3), MBARD's approach for assessing cumulative impacts is based on the AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and state Clean Air Acts. If the project's emissions do not exceed the applicable MBARD threshold, then the project's criteria pollutant emissions would not be cumulatively considerable.

Construction

Table 4 summarizes the estimated maximum daily emissions (lbs) of pollutants associated with construction of the proposed project. As shown below, PM_{10} emissions would not exceed the MBARD PM_{10} threshold. Because the project would not exceed MBARD thresholds, project construction would not result in a cumulatively considerable net increase of a criteria pollutant, and impacts would be less than significant.

Table 4 Construction Emissions (lbs/day)

Pollutant	Maximum Daily Emissions	Significance Threshold	Significant Impact?
PM_{10}	7.6	82	No
$PM_{2.5}$	4.3	N/A	N/A

See Appendix A for CalEEMod worksheets.

Operational

Table 5 summarizes the project's operational emissions by emission source (area, energy, and mobile). As shown below, the emissions generated by operation of the proposed project would not exceed MBARD thresholds for criteria pollutants. Therefore, the project would not contribute substantially to an existing or projected air quality violation. In addition, because criteria pollutant emissions and regional thresholds are cumulative in nature, the project would not result in a cumulatively considerable net increase of criteria pollutants.

Table 5 Operational Emissions (lbs/day)

Pollutant	Maximum Daily Emissions	Significance Threshold	Significant Impact?
ROG	4.3	137	No
NO_x	3.2	137	No
CO	7.9	550	No
SO_x	<0.1	150	No
PM_{10}	3.0	82	No
$PM_{2.5}$	0.8	N/A	N/A

See Appendix A for CalEEMod worksheets.

LESS THAN SIGNIFICANT IMPACT

c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Toxic Air Contaminants

Construction

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for site preparation, grading, building construction, and other construction activities. DPM was identified as a toxic air contaminant (TAC) by CARB in 1998. The potential cancer risk from the inhalation of DPM (discussed in the following paragraphs) outweighs the potential non-cancer health impacts (CARB 2017b).

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction of the proposed project would occur over approximately 12 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., 12 months) is approximately 1.4 percent of the total exposure period used for health risk calculation. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of 9, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (Bay Area Air Quality Management District [BAAQMD] 2017).

The maximum PM_{10} and $PM_{2.5}$ emissions would occur during site preparation and grading activities. These activities would last for approximately two weeks. PM emissions would decrease for the remaining construction period because construction activities such as building construction and architectural coating would require less construction equipment. While the maximum DPM emissions associated with site preparation and grading activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the total construction period. This would represent less than 0.06 percent of the total exposure period for health risk calculation. Therefore, given the aforementioned, DPM generated by project construction is not expected to create conditions where the probability is greater than one in one million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of non-carcinogenic TACs that exceed a hazard index greater than one for the Maximally Exposed Individual. This impact would be less than significant.

Operation

A CO hotspot is a localized concentration of CO that is above a CO ambient air quality standard. Localized CO hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local CO concentration exceeds the federal one-hour standard of 35.0 parts per million (ppm) or the federal and state eight-hour standard of 9.0 ppm (CARB 2016).

The MBARD is in conformance with state and federal CO standards, and most air quality monitoring stations no longer report CO levels. No stations in the vicinity of the project site have monitored CO since 2012. In 2012, the Salinas #3 station detected an 8-hour maximum CO concentration of 1.39 ppm, which is substantially below the state and federal standards (CARB 2019). The proposed project would result in CO emissions of less than one pound per day, well below the 550 pounds per day threshold. Based on the low background level of CO in the project area, improving vehicle emissions standards for new cars in accordance with state and federal regulations, and the project's low level of operational CO emissions, the project would not create new hotspots or contribute substantially to existing hotspots, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The CARB *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) identifies land uses associated with odor complaints, typically including:

- Agriculture uses
- Auto body shops
- Manufacturing facilities
- Wastewater treatment plants
- Power plants
- Landfills
- Chemical plants
- Truck stops

The proposed project involved the development of a Public Works Corporation Yard and a light industrial/warehouse facility, which are not included in land uses typically associated with objectionable odors. The operation of the Corporation Yard would provide vehicle and equipment repair and other operations related to the maintenance of public facilities. Although these uses are not typically associated with objectionable odors, odors from gasoline or vehicle repair equipment could be noticeable in the immediate vicinity of the site. Typical sensitive land uses in CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) include residences, schools, day care centers, playgrounds, and medical facilities. The nearest sensitive land uses are single-family residences located approximately 1,200 feet from the project site. At this distance, due to dispersion and attenuation, odors from the project site at sensitive receptors would be negligible. Therefore, operation of the project would not generate odors that would affect a substantial number of people.

Odors from construction activities are associated with construction equipment exhaust and the application of asphalt and architectural coatings. Odors emitted from construction activities would be temporary and cease upon completion of project construction. In addition, as with operation, the nearest sensitive land uses are single-family residences located approximately 1,200 feet from the project site, and at this distance, due to dispersion and attenuation, odor impacts would be negligible. Therefore, impacts related to objectionable odors during construction or operation of the project would be less than significant.

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?	□	□	□	■

Special-status species are those plants and animals: 1) listed, proposed for listing, or candidates for listing as Threatened or Endangered by the United States Fish and Wildlife Service (USFWS) and National Marine Fisheries Service under the Federal Endangered Species Act; 2) listed or proposed for listing as Rare, Threatened, or Endangered by the California Department of Fish and Wildlife (CDFW) under the California Endangered Species Act; 3) recognized as Species of Special Concern by the CDFW; 4) afforded protection under Migratory Bird Treaty Act and/or California Fish and Game Code (CFGC); and 5) occurring on lists 1 and 2 of the CDFW California Rare Plant Rank system.

Rincon Consultants, Inc. (Rincon) biologists reviewed agency databases and relevant literature for baseline information on special status species and other sensitive biological resources occurring or potentially occurring at the project site and in the immediate surrounding area. The following sources were reviewed for background information

- CDFW California Natural Diversity Data Base (CNDDB) (CDFW 2019a)
- CDFW Special Animals List (CDFW 2019b) and Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2017c)
- CNPS Online Inventory of Rare and Endangered Plants of California (CNPS 2019)
- USFWS Information for Planning and Consultation (IPaC; USFWS 2017a)
- USFWS Critical Habitat Portal (USFWS 2019b)
- USFWS National Wetlands Inventory (USFWS 2019c)

Rincon biologists conducted a review of applicable sources listed above for recorded occurrences of special status plant and wildlife taxa in the region prior to conducting a reconnaissance-level field survey. For this review, the search included all occurrences within the U.S. Geological Survey 7.5-minute topographic quadrangle encompassing the project site (Natividad), and the eight surrounding quadrangles (Prunedale, San Juan Bautista, Hollister, Mount Harlan, Gonzales, Chualar, Spreckels, and Salinas). Strictly marine species were excluded from further analysis given the terrestrial nature of the project site.

Rincon compiled these sources into a list of regionally occurring special status plants and animals and evaluated each species for potential to occur based on habitat conditions and proximity to known occurrences. Rincon also reviewed the National Wetlands Inventory (NWI) (USFWS 2019c) for potential aquatic resources, including jurisdictional waters of the United States or waters of the State.

On August 28, 2019, a Rincon biologist conducted a reconnaissance-level survey of the project site to document site conditions, assess the presence of on-site habitat(s), and evaluate the potential for special-status species and other sensitive biological resources to occur on the project site. The site is relatively flat, vacant, and partially developed with existing curb and gutter located along the roadways surrounding the site, internal paved driveways, a shed structure, and overhead power lines which are located across the property. The entire site has been graded and disturbed and consists of ruderal vegetation cover that is regularly mowed. Ruderal species are plant species that are typically the first species to establish disturbed lands. The ruderal plant community on the project site is dominated by herbaceous non-native species, including English plantain (*Plantago lanceolata*), statice (*Limonium* sp.), common mallow (*Malva neglecta*), and cut leaf plantain (*Plantago coronopus*), with some Black mustard (*Brassica nigra*). There are also several mature honey locust (*Gleditsia triacanthos*) trees scattered across the site.

Based on the species reported in the area in the aforementioned databases and datasets, and habitat and species observations during the reconnaissance-level site visit, Rincon biologists determined that the following special-status species has potential to occur within or adjacent to the project site:

- Congdon's tarplant (Centromadia parryi spp. congdonii)

Rincon biologists observed Congdon's tarplant on the project site during the reconnaissance-level site visit, confirming its presence on-site. The location of the population observed on-site is shown on Figure 4.

Other species listed in the database search would not be expected to occur due to an absence of suitable habitat or anthropogenic influences within or near the site. It should be noted that while habitat on the project site does not support other specific special-status species that were evaluated, the ruderal vegetation and trees could support various species of migratory nesting birds. Examples of migratory nesting birds that could nest within this type of ruderal habitat include Northern mockingbird (*Mimus polyglottos*), Brewer's blackbird (*Euphagus cyanocephalus*), and loggerhead shrike (*Lanius ludovicianus*).

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?

As described above, Congdon's tarplant occurs on-site. Congdon's tarplant is included on list 1B of the CDFW California Rare Plant Rank system (CRPR). Typical habitat for Congdon's tarplant consists of valley and foothill grasslands with alkaline soils, which are sometimes described as heavy white clay. However, the species is also known to occur on disturbed sites (Baldwin 2012), which is characteristic of conditions on the project site. Because most of the project site is disturbed, Congdon's tarplant could occur throughout the site. Impacts to CRPR 1B plant species would only be considered significant if the loss of individuals in the Plan Area represented a population-level impact that resulted in a loss of, or risk to the entire regional population. Currently there are nine (9) known occurrences in the Natividad and Salinas, California USGS 7.5-minute topographic quadrangles, including two with over 100,000 individuals, and one with over 200,000 individuals observed. Currently, loss of Congdon's tarplant observed during the site visit would not represent a population level impact, and impacts would be less than significant without mitigation. However, the size and status of Congdon's tarplant in the project area and regional vicinity at the time of future project development is unknown. Therefore, project specific impacts cannot be evaluated at this time. Construction of the uses that would be allowed on the project site under the proposed lease would require ground disturbance, including grading and excavation. Therefore, construction of the proposed project could impact Congdon's tarplant.

As discussed above, a number of migratory nesting bird species could also utilize the project site during the nesting season. Construction activities could remove trees on the project site that may be used as nest sites, as well as ruderal vegetation that may also contain nest sites. Thus, construction activities could result in the direct take of the birds or their nests. Impacts to special-status species, including migratory nesting birds, may be considered significant under CEQA.

Potential impacts to Congdon's tarplant and migratory nesting birds would be reduced to less than significant with implementation of the following mitigation measures.

Figure 4 Congdon's Tarplant Population

Imagery provided by Microsoft Bing, ESRI, and their licensors © 2019.

BIO-1 Pre-Disturbance Congdon's Tarplant Survey and Mitigation Planting

Prior to commencement of ground disturbance required for project construction, a focused survey for Congdon's tarplant shall be conducted by a qualified biologist in areas of the project site where the construction is to occur, as the site is developed in portions under the proposed lease. The survey shall be conducted during the species' blooming period (May to November), and findings of the survey shall be submitted to the City of Salinas for review and approval.

If a population of Congdon's tarplant is found within the planned construction area, mitigation for the loss of individuals shall be conducted. Mitigation shall be achieved by establishing a new population of Congdon's tarplant in an area approved by the USFWS and CDFW. This area shall not be developed and shall contain suitable habitat types for establishing a new population. Mitigation shall be a 1:1 ratio (impact to mitigation) of plant establishment on an acreage basis.

Monitoring of the new mitigation population shall occur annually. Annual monitoring shall include quantitative sampling of the Congdon's tarplant population to determine the number of plants that have germinated and set seed. This monitoring shall continue annually or until success criteria have been met; once annual monitoring has documented that a self-sustaining population of this annual species has been successfully established on site, this mitigation measure shall be determined to have been met and the project applicant released from further responsibility.

Establishment of the plant population shall be subject to a Habitat Mitigation and Monitoring Plan. To ensure the success of mitigation sites required for compensation of permanent impacts on Congdon's tarplant, the project applicant shall retain a qualified biologist to prepare a Habitat Mitigation and Monitoring Plan. The Habitat Mitigation and Monitoring Plan shall be submitted to the City of Salinas for review and approval prior to the start of construction. The Habitat Mitigation and Monitoring Plan shall include, at a minimum, the following information:

- A summary of impacts to Condon's tarplant and the proposed mitigation
- A description of the location and boundaries of the mitigation site(s) and description of existing site conditions
- A description of any measures to be undertaken to enhance (e.g., through focused management) the mitigation site for Congdon's tarplant
- Identification of an adequate funding mechanism for long-term management
- A description of management and maintenance measures intended to maintain and enhance habitat for the Congdon's tarplant (e.g., weed control, fencing maintenance)
- A description of Congdon's tarplant monitoring measures on the mitigation site, including specific, objective performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc. Monitoring shall document compliance with each element requiring habitat compensation or management. At a minimum, performance criteria shall include a minimum 1:1 mitigation ratio for the number of plants in the impacted population (at least one plant preserved for each plant impacted).
- A contingency plan for mitigation elements that do not meet performance or final success criteria within described periods; the plan shall include specific triggers for remediation if performance criteria are not met and a description of the process by which remediation of problems with the mitigation site (e.g., presence of noxious weeds) shall occur
- A requirement that the project proponent shall be responsible for monitoring, as specified in the Habitat Mitigation and Monitoring Plan, for at least three (3) years post-construction; during

this period, annual reporting will be provided to the City's Project Manager. At the request of the CDFW or USFWS, the annual reporting shall also be provided to these agencies.

BIO-2 Nesting Bird Avoidance and Minimization Efforts

If project construction activities occur between February 15 and September 1, a qualified biologist shall conduct a pre-construction survey for nesting birds no more than 14 days prior to construction. If nests are found the qualified biologist shall establish an appropriate species-specific avoidance buffer of sufficient size to prevent disturbance of the nest by project activity (up to 300 feet for raptors, up to 150 feet for all other birds). The qualified biologist shall perform at least two hours of pre-construction monitoring of the nest to characterize "typical" bird behavior. The qualified biologist shall monitor the nesting birds and shall increase the buffer if it is determined the birds are showing signs of unusual or distressed behavior associated with project activities. Atypical nesting behaviors that may cause reproductive harm includes, but is not limited to, defensive flights, vocalizations directed towards project personnel/activities, standing up from a brooding position, and flying away from the nest. The qualified biologist should have authority, authority to order the cessation of all project activities if the nesting birds exhibit atypical behavior which may cause reproductive failure (nest abandonment and loss of eggs and/or young) until an appropriate buffer is established. To prevent encroachment, the established buffer(s) should be clearly marked by high visibility material. The established buffer(s) should remain in effect until the young have fledged as confirmed by the qualified biologist.

The monitoring biologist, in consultation with the project manager shall determine the appropriate protection for active nests on a case by case basis using the criteria described above.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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?

The CNDDB contains records of four sensitive natural communities within the area shown on the U.S. Geological Survey 7.5-minute topographic quadrangle encompassing the project site (*Natividad*), and the eight surrounding quadrangles. These communities include: Central Maritime Chaparral; Coastal Brackish Marsh; Northern Coastal Salt Marsh; and Valley Needlegrass Grassland. As described above, vegetation on the project site consists of non-native herbaceous forbs and several scattered and isolated trees. Native grassland, such as Valley Needlegrass Grassland, do not occur on the project site, nor does chaparral vegetation. There are no surface waters or shallow groundwater expressions on or adjacent to the project site and associated riparian and marshland vegetation does not occur within or adjacent to the project site. Scattered trees on the project site do not constitute woodland. Ruderal vegetation cover, such as that found on the project site, is not a sensitive natural community. Therefore, the proposed project would have no impact on riparian habitat or other sensitive natural communities.

NO 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?*

No wetlands or potentially jurisdictional features occur within the project site. The project site is not part of a hydrological flow to a wetland area. Therefore, the proposed project would have no impact on State or federally protected wetlands.

NO 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 movement corridors are generally linear and consist of things such as coastlines, riverways and riparian zones. Additionally, some wildlife species may move through certain corridors in response to topography, such as a canyon through rugged mountains, or in response to its prey. The project site is relatively flat and does not contain wildlife movement corridors. The site is not part of a known migration route of wildlife species, and it is surrounded by existing development. As described above, migratory nesting birds may nest on-site, but may also rest or forage on-site during migration or breeding. However, the ruderal vegetation on-site is not unique, and removal of vegetation for the proposed project would not substantially reduce the abundance of this type of ruderal vegetation such that the migration of birds would be at risk. Impacts would be less than significant.

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?*

Chapter 35 of the Salinas Municipal Code sets forth regulations and provisions pertaining to the planting, maintenance, and removal of trees and shrubs in Salinas. According to Section 35-1 of the Salinas Municipal Code, the City defines a heritage and/or landmark tree as 1) an oak tree that is at least 24 inches in diameter at two feet above the ground surface; or 2) an oak tree that is visually significant, historically significant, or exemplary in its species. Section 35-18 of the Salinas Municipal Code prohibits the removal of heritage or landmark trees from City property unless approved by the City's Public Works Director. Heritage and landmark trees do not occur on the site, and the proposed project would not require removal of heritage or landmark trees.

Pursuant to Section 35-9 of the Salinas Municipal Code, no person shall root-trim, trim, prune, plant, injure, remove, or interfere with any tree, shrub or plant upon any street, parkway or alley in the City without written permission from the City's Public Works Director. The project site contains several trees that grow within proximity to Mortensen Avenue. Removal of these trees, if required for the proposed project, would be in conformance with the Salinas Municipal Code, as applicable.

The project site is in an industrial area. Section 35-4 of the Salinas Municipal Code states that industrial areas shall not be planted unless a request is presented to the Director of Public Works. Upon approval by the Director and the City Council, the request shall be granted. The proposed project could include landscaping and planting and would be required to comply with Section 35-4 of the Salinas Municipal Code.

There are no other ordinances or local policies protecting biological resources applicable to the project site. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans applicable to the project site. The proposed project would not conflict with such plans. There would be no impact.

NO IMPACT

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?	□	□	■	□

CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC], Section 21084.1) 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), a resource included in a local register of historical resources, or any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines, Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

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; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made 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]).

PRC, Section 21083.2(g) defines a unique archaeological resource as an archaeological 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:

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

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Rincon conducted a California Historical Resources Information System records search of the project site as well as immediately surrounding areas and a review of the Sacred Lands File through the California Native American Heritage Commission. Findings from the records search are discussed in the analysis below.

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

The project site contains one standing structure consisting of an ancillary, prefabricated storage shed placed on the property sometime in the 1940s. Although the structure is over 50 years old, it is a temporary, prefabricated structure and therefore does not require evaluation as a potential historical resource. No other built-environment resources are present on the project site, thus the project would not impact historical resources.

NO IMPACT

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

A cultural resources records search conducted at the Northwest Information Center on September 3, 2019 failed to identify archaeological resources within a 0.5-mile radius of the project site. Additionally, the project site is identified in an area of “low sensitivity” on the Monterey County Archaeological Sensitivity Map (County of Monterey 2019). Although no archaeological resources are known to exist on the project site, unanticipated discoveries during construction are always a possibility and impacts to unknown archaeological sites are potentially significant. Mitigation is required to reduce impacts to less than significant.

On August 30, 2019, the City of Salinas, pursuant to Public Resources 21080.3.1 and AB 52 sent via certified mail notification letters to seven (7) California Native American Tribes that are traditionally and culturally affiliated with the project site requesting to contact the City within 30-days of the letter to schedule a tribal consultation. The letter was sent to the Amah Mutsun Tribal Band of Mission San Juan Batista, Amah Mutsen Tribal Band (two (2) letters), Coastanoan Rumsen Carmel Tribe, Indian Canyon Mutsun Tribe of Coastanoan, Ohlone Coastanoan-Esselen Nation, Torres Martinez Desert Cahuilla Indians, and the Xolon Salinan Tribe.

On September 23, 2019, Louise J. Miranda Ramirez, Tribal Chairwoman of the Ohlone/Costanoan-Esselen Nation requested a tribal consultation pursuant to Public Resources Code Section 21080.3.1. On October 8, 2019, City staff held a tribal consultation on the proposed project at the Salinas Permit Center with the Ohlone/Coastanoan-Esselen Nation. During the consultation, the Ohlone/Coastanoan-Esselen Nation requested that copies of all applicable archaeological reports and surveys concerning the proposed project, including subsurface testing and presence/absence testing should be provided to them for review. In addition, they requested that if any tribal cultural resource is discovered on the project site, that a monitor from the Ohlone/Coastanoan-Esselen Nation should be provided. In response, staff provided copies of all applicable archaeological reports and surveys concerning the proposed project. In addition, the proposed Mitigation Measures require that in the event that any tribal cultural resources should be located on the project site, that a monitor from the Ohlone/Coastanoan-Esselen Nation shall be provided.

Additional requests for tribal consultation on the proposed project were not received on this project.

Potential impacts regarding disturbing archaeological resources to a less than significant level with implementation of the following mitigation measure.

CR-1 Unanticipated Discovery of Archaeological Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (NPS 1983) shall be contacted immediately to evaluate the find. If the discovery proves to be eligible for listing in the CRHR, additional work such as data recovery excavation may be warranted. In the event the Archaeological Resources are determined to be of Native American origin, Mitigation Measure TCR-1 shall be applicable as well.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

No human remains are known to exist on the project site. However, the discovery of human remains is always a possibility during ground-disturbing activities. If human remains are found, the State of California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the county coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the Monterey County Coroner must be notified 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 48 hours of being granted access. With adherence to existing regulations, impacts to human remains would be less than significant.

LESS THAN 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?	☐	☐	■	☐

Electricity

In 2018, California's total electric generation was 285,488 Gigawatt hours (GWh), of which 194,842 GWh was produced in-state (CEC 2019). California's non-CO_2 emitting electric generation sources accounted for more than 53 percent of the total in-State generation, which was down from 56 percent in 2017. Monterey County, the location of the proposed project, consumed approximately 2,488.0 GWh of electricity, or 0.9 percent of the electricity generated in California, in 2018 (CEC 2018a).

The proposed project would be provided electricity by Pacific Gas and Electric Company (PG&E and Monterey Bay Community Power). Table 6 details the electricity consumption by sector in PG&E's service area. In 2018 PG&E provided approximately 27 percent of the total electricity generated in California.

Table 6 Electricity Consumption in the PG&E Service Area in 2018

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Streetlight	Total Usage
5,735.1	26,650.0	4,195.1	10,344.7	1,567.3	27,964.8	318.6	79,775.7

Notes: Usage expressed in GWh

Source: CEC 2018b, http://ecdms.energy.ca.gov/elecbyutil.aspx

Natural Gas

Natural gas forms a third of energy commodities consumed in California and consumers fall into four sectors: residential, commercial, industrial, and electric power generation (EIA 2018a). In 2018, California consumed about 12,638 million U.S. therms (Mthm), or about 1,270 trillion Btu, of natural gas (CEC 2018c).

The proposed project would be provided natural gas by PG&E. Table 7 details the natural gas consumption by sector in PG&E's service area. In 2018 PG&E provided approximately 38 percent of the total natural gas and generated in California.

Table 7 Natural Gas Consumption in PG&E Service Area in 2018

Agriculture and Water Pump	Commercial Building	Commercial Other	Industry	Mining and Construction	Residential	Total Usage
37.2	899.1	59.0	1,776.0	190.2	1,832.8	4,794.4

Notes: Usage expressed in MMThm

Source: CEC 2018d, http://ecdms.energy.ca.gov/gasbyutil.aspx

Petroleum

In 2017, approximately 40 percent of the state's energy consumption was used for transportation activities (EIA 2018b). Californians presently consume over 19 billion gallons of motor vehicle fuels per year (CEC 2018e). Though California's population and economy are expected to grow, gasoline demand is projected to decline from roughly 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030, a 20 percent to 22 percent reduction. This decline comes in response to both increasing vehicle electrification and higher fuel economy for new gasoline vehicles (CEC 2018d).

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?*

Construction Energy Demand

During project construction, petroleum-based fuels would be used for construction vehicles and equipment on the project site, construction workers' travel to and from the project site, and vehicles used to deliver materials to the site. The project would involve demolition of existing asphalt; site preparation and grading; pavement and asphalt installation; building construction; architectural coating; and installation of landscaping and hardscaping.

The total consumption of gasoline and diesel fuel during project construction was estimated using the assumptions and factors from CalEEMod used to estimate construction air emissions in the air quality analysis (Appendix A). Table 8 presents the estimated construction phase energy consumption, indicating construction equipment, vendor trips, and worker trips would consume approximately 59,720 gallons of diesel fuel over the project construction period.

Table 8 Estimated Fuel Consumption during Construction

Fuel Type	Gallons of Fuel	MMBtu[4]
Diesel Fuel (Construction Equipment)[1,2]	44,069.1	5,617.2
Other Petroleum Fuel (Worker Trips)[3]	15,651.0	1,718.3
Total	**59,720.1**	**7,335.5**

[1] Fuel demand rate for construction equipment is derived from the total hours of operation, the equipment's horse power, and the equipment's fuel usage per horse power per hour of operation, which are taken from CalEEMod outputs (see Appendix A). Fuel consumed for construction equipment is assumed to be diesel fuel.

[2] Fuel demand rates for hauling and vendor trips (cut material imports) are derived from hauling and vendor trip number, hauling and vendor trip length, and hauling and vendor vehicle class from "Trips and VMT" Table contained in Section 3.0, *Construction Detail*, of the CalEEMod results (see Appendix A). The fuel economy for hauling and vendor trip vehicles is derived from the United States Department of Transportation (DOT 2018). Fuel consumed for hauling trucks is assumed to be diesel fuel.

[3] The fuel economy for worker trip vehicles is derived from derived from U.S. Department of Transportation National Transportation Statistics (24 mpg) (DOT 2018). Fuel consumed for worker trips is assumed to be gasoline fuel.

[4] CaRFG CA-GREET 2.0 fuel specification of 109,786 Btu/gallon used to identify conversion rate for fuel energy consumption for worker trips specified above (California Air Resources Board [CARB] 2015a). Low-sulfur Diesel CA-GREET 2.0 fuel specification of 127,464 Btu/gallon used to identify conversion rate for fuel energy consumption for construction equipment specified above (CARB 2015). Due to rounding, numbers may not add up precisely to the totals indicated.

Construction activity and associated fuel consumption and energy use would be temporary and typical for construction sites. It is also reasonable to assume that contractors would avoid wasteful, inefficient, and unnecessary fuel consumption during construction to control construction costs. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and the construction-phase impact related to energy consumption would be less than significant.

Operational Energy Demand

Operation of the project would result in energy demand from electricity and natural gas consumption for heating and cooling systems, lighting, appliances, water use, and the overall operation of the Public Works Corporation Yard and light industrial/warehouse facility. In addition, energy demand from gasoline consumption would be attributed to the daily trips from workers and people traveling to and from the project site. The estimated number of daily trips is used to determine the energy consumption associated with fuel use from the operation of the project. Table 9 shows the estimated total annual fuel consumption associated with the additional vehicle trips.

Table 9 Estimated Project Transportation Energy Consumption

Vehicle Type[1]	Percent of Vehicle Trips[2]	Total Annual Fuel Consumption (gallons)[3]	Total Fuel Consumption (MMBtu)[5]
Passenger Cars	54.4	25,125.5	2,864.3
Light/Medium Trucks	36.6	22,581.4	2,574.3
Heavy Trucks/Other	8.3	13,625.0[4]	1,553.2
Motorcycles	0.8	263.2[5]	30.0
Total	**100.0**	**61,595.06**	**67,021.8**

[1] Vehicle classes provided in CalEEMod do not correspond exactly to vehicle classes in DOT fuel consumption data, except for motorcycles. Therefore, it was assumed that passenger cars correspond to the light-duty, short-base vehicle class, light/medium trucks correspond to the light-duty long-base vehicle class, and heavy trucks/other correspond to the single unit, 2-axle 6-tire or more class.

[2] Percent of vehicle trips from Table 4.4 "Fleet Mix" in CalEEMod output (see Appendix A).

[3] Total fuel consumption is based on the mitigated annual VMT found in Table 4.2 in CalEEMod output (see Appendix A) and on average fuel economy provided by CARB (CARB 2015b)

[4] Heavy Trucks/Other consumes diesel fuel

[5] CaRFG fuel specification of 109,786 Btu/gallon used to identify conversion rate for fuel energy consumption for vehicle classes specified above (CARB 2015a).

Notes: Totals may not add up due to rounding.

As shown in Table 9, vehicles associated with the operation of the project would consume approximately 61,595 gallons of fuel, or 7,021.8 MMBtu, each year under the most conservative estimate. The fuel consumed by the project would be typical of general light industrial projects.

Project operation would consume approximately 0.53 GWh of electricity per year (Appendix A). As mentioned, the project would be served by PG&E which provided 79,775 GWh of electricity in 2018 (CEC 2018b). The project would only consume approximately 0.07 percent of PG&E's electricity provided in 2018. Therefore, PG&E would have sufficient supplies for the project. Operation of the project would also consume approximately 0.006 MMThm of natural gas per year (Appendix A). Natural gas would also be provided by PG&E, which provided 4,794 MMThm of natural gas to its service area in 2018. (CEC 2018c). The project would only consume approximately 0.0001 percent of PG&E's natural gas provided in 2018; therefore, PG&E would have sufficient supplies to serve the project.

The project would comply with standards set in California Building Code (CBC) Title 24, which would minimize the wasteful, inefficient, or unnecessary consumption of energy resources during operation**.** California's Green Building Standards Code (CALGreen; California Code of Regulations, Title 24, Part 11) requires implementation of energy efficient light fixtures and building materials into the design of new construction projects. Furthermore, the 2019 Building Energy Efficiency Standards (CBC Title 24, Part 6) requires newly constructed buildings to meet energy performance standards set by the Energy Commission. As the name implies, these standards are specifically crafted for new buildings to result in energy efficient performance, so the buildings do not result in wasteful, inefficient, or unnecessary consumption of energy. The standards are updated every three years and each iteration is more energy efficient than the previous standards. For example, according to the CEC, residences built with the 2019 standards will use about seven percent less energy due to energy efficiency measures versus those built under the 2016 standards, or 53 percent less energy with rooftop solar, and nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades (CEC 2018f). Furthermore, the project would continue to reduce its use of nonrenewable energy resources as the electricity generated by renewable resources provided by PG&E continues to increase to comply with state requirements through Senate Bill 100, which 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.

In conclusion, construction of the project would be temporary and typical of similar projects, and not result in wasteful use energy. Project operation would increase energy use on the site compared to existing conditions. However, the energy use would be in conformance with the latest version of California's Green Building Standards Code and the Building Energy Efficiency Standards. Additionally, PG&E has sufficient supplies to serve the project. Therefore, the project would not result in wasteful or unnecessary energy consumption, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

As previously mentioned, the project would comply with California's Green Building Standards Code and the Building Energy Efficiency Standards, which contain energy efficiency requirements. The City of Salinas does not have an adopted Climate Action Pan (CAP) that includes energy reduction strategies and policies. However, the City's Conservation/Open Space Element in the General Plan contains policies which seek to encourage energy conservation. Table 10 includes a consistency analysis with policies that are applicable to the proposed project.

Table 10 General Plan Energy Policy Consistency Analysis

Applicable Policies	Consistent?
Policy COS-8.1: Enforce State Title 24 building construction requirements	**Yes**; the project would comply with Title 24.
Policy COS-8.2: Apply standards that promote energy conservation in new and existing development	**Yes**; the project would comply with California's Green Building Standards code which includes energy conservation measures.

As shown in Table 10, the project would not conflict with the two applicable policies in the City's General Plan. Therefore, the project would not conflict with or obstruct a local plan for renewable energy or energy efficiency and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

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?

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?

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

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?

The nearest Alquist-Priolo fault zone is associated with the San Andreas Fault, located approximately 13 miles northeast of the project site (USGS 2019). While no faults have been mapped within the city itself, the city and surrounding areas could still experience damage from earthquakes and the project site is in a zone of moderate seismic hazards (City of Salinas 2002). The City's General Plan (2002) includes goals and policies meant to address earthquake risk in the city, including the following:

Goal S-4 Reduce the risk to the community from seismic activity, geologic conditions, flooding, and other natural hazards.

Policy S-4.1 During the review of development proposals, investigate and mitigate geologic and seismic hazards, or require that development be located away from such hazards, in order to preserve life and protect property.

Policy S-4.6 Ensure that all development and reuse/revitalization projects are developed in accordance with the most recent Uniform Fire Code requirements.

The City primarily experiences earthquake hazards in the form of liquefaction, due to recently deposited sands and silts in areas of high groundwater levels (City of Salinas 2002). The liquefaction susceptibility is mapped as low for the project site and surrounding area (Monterey County 2019). The site is relatively flat and is not within a mapped landslide area; therefore, there is a very low potential for landslides on the site (DOC 2015).

The project site would be occupied by future employees, but would not provide housing for any new residents. The risk is very low for injury or death to occur from any of the hazards associated with surface rupture, ground shaking, liquefaction, landslides, or the effects of project construction on the site. The project would be constructed in compliance with the California Building Code and City of Salinas Code of Ordinances, as applicable, which include seismic safety standards.

Because the project site is not within a designated fault zone, near a mapped fault line, in a high liquefaction susceptibility area, or in a landslide area, construction and operation of the project would cause no impact related to seismic hazards.

NO IMPACT

b. *Would the project result in substantial soil erosion or the loss of topsoil?*

Grading and site preparation associated with project construction can result in erosion and loss of topsoil. Because the project would disturb more than one acre of land, it would be required to obtain coverage under the statewide National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Storm Water Associated with Construction Activity Construction General Permit Order 2009-0009-DWQ (Construction General Permit), administered by the State Water Resources Control Board (SWRCB). Section 10, *Hydrology and Water Quality*, describes how coverage under the NPDES Permit would require implementation of a Stormwater Pollution Prevention Plan (SWPPP) and various best management practices (BMP) to reduce erosion and loss of topsoil during site construction. The City of Salinas Code of Ordinances Section 29-15 provides direction concerning erosion control, including keeping debris and dirt out of the city's storm drain system during construction, requiring submittal of a SWPPP, and requiring low impact development strategies or structural treatment control BMPs. Compliance with the NPDES permit and identified BMPs and with appropriate sections of the Salinas Grading Code of Ordinances would ensure impacts from erosion would be less than significant.

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?*

Expansive soils have the potential to cause damage to structures through soil movement as the soil changes volume in response to changes in the water content. The project site is underlain by Antioch very fine sandy loam soil, which is moderately expansive, as it has a moderate shrink-swell potential (NRCS 2019). The City of Salinas General Plan does not identify any expansive soils within the city (City of Salinas 2002). The City of Salinas Code of Ordinances requires a soils report that identifies and proposes mitigation for critically expansive soils (Section 31-402.5[b]). Project construction would comply with the California Building Code and City of Salinas Code of Ordinances, as applicable, which would ensure construction on potentially expansive soils is designed to withstand potential soil movement. Therefore, potential impacts from expansive soils would be less than significant.

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?*

Proposed structures on the project site would connect to the municipal wastewater system as needed. The project would not require septic tanks or alternative wastewater disposal systems. Therefore, no impacts would occur.

NO IMPACT

f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

The paleontological sensitivity of the geologic units that underlie the project site was evaluated using the results of the paleontological locality search and review of existing information in the scientific literature concerning known fossils within those geologic units. Rincon examined fossil collections records from the University of California Museum of Paleontology (UCMP) online database, which contains known fossil localities in Monterey County.

Following the literature review and museum record search, a paleontological sensitivity classification was assigned to the geologic units within the project site. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically sensitive geologic units. The Society of Vertebrate Paleontology (SVP) (2010) has developed a system for assessing paleontological sensitivity and describes sedimentary rock units as having high, low, undetermined, or no potential for containing scientifically significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrate or significant invertebrate fossils have been determined by previous studies to be present or likely to be present.

The proposed project is situated in the Coast Ranges Geomorphic Province, one of eleven major provinces in California (California Geological Survey 2002). A geomorphic province is a region of unique topography and geology that is distinguished from other regions based on its landforms and geologic history. The Coast Ranges province is bounded to the east by the Central Valley, to the northeast by the Klamath Mountains, to the south by the Transverse Ranges, and to the west by the Pacific Ocean. According to geologic mapping by Dibblee and Minch (2007), the project site is entirely underlain by younger Quaternary alluvium (Qa). These Holocene sediments consist of weakly-consolidated, pale yellowish-brown to dark reddish-brown alluvial gravel, sand, and silt derived from valley areas and floodplains (Dibblee and Minch 2007; Durham 1974). Intact Holocene alluvial deposits in the project site are too young to preserve paleontological resources; however, at moderate depth (approximately 10 feet below ground surface), the Holocene sediments may grade downward into older deposits of Pleistocene age (Qoa) that could preserve fossil remains. Pleistocene deposits have a well-documented record of abundant and diverse vertebrate fauna throughout California, including Monterey County.

A search of the paleontological locality records at the UCMP resulted in no previously recorded fossil localities in the project site; however, several vertebrate and invertebrate localities have been recorded nearby in similar deposits. The UCMP has records of seventeen fossil specimens from Pleistocene-aged sediments in Monterey County. The closest of these include a camel (*Camelops*) recovered from Moss Landing and oysters (*Osteria*) from Elkhorn Slough, just northwest of Salinas (UCMP 2019). Other Pleistocene-aged fossils recovered from Monterey County are horses (*Equus*), ground sloth (*Glossotherium*), and bison (*Bison*), among others (Hoppe et al. 2003; UCMP 2019). Depth of recovery is unreported for any of these localities.

Consistent with SVP (2010) guidelines, Rincon determined the paleontological sensitivity of the project site based on a literature review and museum locality search. Holocene sedimentary deposits, particularly those younger than 5,000 years old, are generally too young to contain fossilized material. Therefore, the Holocene alluvial deposits mapped at the surface of the project site have been assigned a low paleontological sensitivity.

Project ground disturbance would be minimal as there are no subterranean components associated with the proposed industrial development. Given that the fossiliferous deposits may occur at greater depths than anticipated project disturbance, the potential for encountering fossil resources during project-related ground disturbance is low and impacts to paleontological resources are not anticipated.

Further paleontological resources work is not recommended at this time; however, unanticipated discoveries during ground-disturbing activities are possible. Therefore, Mitigation Measure GEO-1 is required in the case of unanticipated fossil discoveries during excavation associated with the proposed industrial development. Mitigation Measure GEO-1 would apply to all phases of project construction and would ensure that potential impacts to paleontological resources would be less than significant by providing for the recovery, identification and curation of previously unrecovered fossils.

Mitigation Measure

GEO-1 Unanticipated Discovery of Paleontological Resources

In the event an unanticipated fossil discovery is made during the course of project development, then in accordance with SVP (2010) guidelines, it is the responsibility of any worker who observes fossils within the project site to stop work in the immediate vicinity of the find and notify a qualified professional paleontologist who shall be retained to evaluate the discovery, determine its significance and if additional mitigation or treatment is warranted. Work in the area of the discovery will resume once the find is properly documented and authorization is given to resume construction work. Any significant paleontological resources found during construction monitoring shall be prepared, identified, analyzed, and permanently curated in an approved regional museum repository.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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?	□	□	■	□

Climate Change and Greenhouse Gases

Climate change is the observed increase in the average temperature of the earth's atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. The term climate change is often used interchangeably with the term global warming, but climate change is preferred to global warming because it helps convey that there are other changes in addition to rising temperatures. The baseline against which these changes are measured originates in historical records identifying temperature changes that have occurred in the past, such as during previous ice ages. The global climate is continuously changing, as evidenced by repeated episodes of substantial warming and cooling documented in the geologic record. The rate of change has typically been incremental, with warming or cooling trends occurring over the course of thousands of years. The past 10,000 years have been marked by a period of incremental warming, as glaciers have steadily retreated across the globe. However, scientists have observed acceleration in the rate of warming during the past 150 years. According to the United Nations Intergovernmental Panel on Climate Change (IPCC), the understanding of anthropogenic warming and cooling influences on climate has led to a high confidence (95 percent or greater chance) that the global average net effect of human activities has been the dominant cause of warming since the mid-twentieth century (IPCC 2014).

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 (HFCs) and perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). 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, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Observations of CO_2 concentrations, globally averaged temperature, and sea level rise are generally well within the range of the extent of the earlier IPCC projections. The recently observed increases in CH_4 and N_2O concentrations are smaller than those assumed in the scenarios in the previous assessments. Each IPCC assessment has used new projections of future climate change that have become more detailed as the models have become more advanced.

Man-made GHGs, many of which have greater heat-absorption potential than CO_2, include fluorinated gases and SF_6 (California Environmental Protection Agency [CalEPA] 2006). 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). 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. By contrast, CH_4 has a GWP of 25, meaning its global warming effect is 25 times greater than carbon dioxide on a molecule per molecule basis (IPCC 2007).

The accumulation of GHGs in the atmosphere regulates the earth's temperature. Without the natural heat trapping effect of GHGs, Earth's average temperature would be near 0°F (NASA 1998). However, it is believed that emissions from human activities, particularly the consumption of fossil fuels for electricity production and transportation, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, physical changes caused by a project can contribute incrementally to cumulative effects that are significant, even if individual changes resulting from a project are limited. The issue of climate change typically involves an analysis of whether a project's contribution towards an impact would be cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

California Regulations

CARB is responsible for the coordination and oversight of state and local air pollution control programs in California. California has numerous regulations aimed at reducing the state's GHG emissions. A few of these initiatives are highlighted below.

California's major initiative for reducing GHG emissions is outlined in Assembly Bill 32 (AB 32), the California Global Warming solutions Act of 2006, signed into law in 2006. AB 32 codifies the statewide goal of reducing GHG emissions to 1990 levels by 2020 (essentially a 15 percent reduction below 2005 levels, the same requirement as under S-3-05) and requires CARB to prepare a Scoping Plan that outlines the main state strategies for reducing GHGs to meet the 2020 deadline. In addition, AB 32 requires CARB to adopt regulations to require reporting and verification of statewide GHG emissions.

After completing a comprehensive review and update process, CARB approved a 1990 statewide GHG level and 2020 limit of 427 MMT CO_2e. The Scoping Plan was approved by CARB on December 11, 2008 and included measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures. 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 approval of the Scoping Plan.

On September 8, 2016, the governor signed Senate Bill 32 (SB 32) into law, extending AB 32 by requiring the State to further reduce GHGs to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, 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, as well as implementation of recently adopted policies such as SB 350 and SB 1383. 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 a statewide per capita goal of six metric tons (MT) of CO_2e by 2030 and two MT of CO_2e by 2050 (CARB 2017c). As stated in the 2017 Scoping Plan, these goals may be appropriate for plan-level analyses (city, county, subregional, or regional level), but not for specific individual projects because they include all emissions sectors in the State.

Senate Bill (SB) 97, signed in August 2007, acknowledges that climate change is an environmental issue that requires analysis in CEQA documents. In March 2010, the California Resources Agency adopted amendments to the state CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. The adopted guidelines give lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHGs and climate change impacts.

Senate Bill (SB) 375, signed in August 2008, enhances the state's ability to reach AB 32 goals by directing CARB to develop regional GHG emission reduction targets to be achieved from passenger vehicles for 2020 and 2035. In addition, SB 375 directs each of the state's 18 major Metropolitan Planning Organizations (MPO) to prepare a sustainable communities strategy (SCS) that contains a growth strategy to meet these emission targets for inclusion in the Regional Transportation Plan (RTP). On September 23, 2010, CARB adopted final regional targets for reducing GHG emissions from 2005 levels by 2020 and 2035.

For more information on the Senate and Assembly Bills, Executive Orders, and reports discussed above, and to view reports and research referenced above, please refer to the following websites: www.climatechange.ca.gov and www.arb.ca.gov/cc/cc.htm.

City of Salinas Greenhouse Gas Inventory

AMBAG has assisted the City of Salinas in the preparation of GHG emissions baseline inventories. In 2011, AMBAG produced the City of Salinas Greenhouse Gas Emissions Inventory 2005 Baseline Report which provides data on the City's 2005 emissions baseline volumes generated by community activities (i.e. land use development) and by municipal operations. Total 2005 GHG emissions were estimated at 804,444 MT CO2e. Emissions from commercial and industrial development were estimated at 271,143 MT CO2e. The commercial and industrial emissions include only those related to the consumption of electricity and natural gas and do not include emissions from associated transportation or waste disposal/management.

Significance Thresholds

The vast majority of individual projects do not generate sufficient GHG emissions to directly influence climate change. However, project emissions can contribute incrementally to cumulative effects which are significant, even if individual changes resulting from a project are limited. Thus, the issue of climate change typically involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. Cumulatively considerable means the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects (CEQA Guidelines, Section 15064[h][1]).

Neither the State, MBARD, or the City of Salinas has adopted GHG emissions thresholds. The 2017 Scoping Plan does not provide specific guidance to local jurisdictions for determining the amount of emission reductions to be achieved from land use plans or projects. Instead, it recommends that local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six MT CO_2e by 2030 and two MT CO_2e by 2050 (CARB 2017c). Salinas does not have a GHG emissions reduction plan and MBARD has not provided quantitative thresholds to evaluate GHG impacts associated with land use projects.

As identified in Section 15064.7(c) of the State CEQA Guidelines, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence. Land use projects in Monterey County have used the quantitative thresholds established by San Luis Obispo County Air Pollution Control District (SLOAPCD) to assess GHG impacts (County of Monterey 2015). In April 2012, SLOAPCD, whose jurisdiction is adjacent to MBARD to the south, adopted quantitative thresholds for GHG emissions for most land use projects (SLOAPCD 2012). The SLOAPCD *CEQA Handbook* includes a bright-line threshold of 1,150 MT of CO_2e, as well as an efficiency threshold of 4.9 MT of CO_2e per service population (SP) per year (service population = number of residents + employees). The most appropriate threshold available to evaluate potential GHG emissions impacts is SLOAPCD's adopted efficiency threshold of 4.9 MT of CO_2e per service population per year. SLOAPCD's supporting evidence for the efficiency threshold states that it is appropriate for large projects because it reflects the consistency of highly efficient large projects with the state's GHG reduction targets despite such projects' relatively high mass emissions (SLOAPCD 2012). Because the efficiency metric is tied to ensuring every resident and employee does his or her fair share to achieve statewide GHG reduction targets, it is appropriate for use anywhere in the state, and not just in the region within SLOAPCD's jurisdiction.

SLOAPCD designed its efficiency threshold to achieve consistency with the 2020 target set by AB 32 and has not yet updated this threshold to achieve consistency with the 2030 target set by SB 32. However, using the same methodology SLOAPCD used to derive the 2020 target results in a threshold of 2.8 MT CO_2e per service population per year in 2030. In the absence of an updated threshold, the SLOAPCD efficiency threshold as updated for 2030 is the appropriate threshold to use in evaluating the significance of the proposed project's GHG emissions. This threshold ensures that the future employees do their fair share to help their local region help California meet its statewide 2030 GHG emissions reduction target. In addition, project per capita emissions, which primarily result from vehicle trips, would continue to decrease over time due to implementation and expansion of statewide policies, regulations, and programs, such as fuel efficiency standards, renewable energy requirements for utility providers, and incentive programs to support hybrid and electric vehicle adoption. Therefore, the GHG efficiency threshold of 2.8 MT CO_2e per service population per year for 2030 is applied to projected development under the project. Emissions greater than 2.8 MT CO_2e per service population per year may conflict with substantial progress toward GHG reduction targets, and the project's cumulative contribution of emissions would be considered cumulatively considerable. As the project is estimated to be operational in 2022, using the 2030 target as a significance threshold is conservative.

Methodology

GHG emissions for project construction and operation were calculated using CalEEMod, Version 2016.3.2. The model calculates emissions of the following GHGs: CO_2, N_2O, and CH_4, reported as CO_2e. The calculation methodology and input data used in CalEEMod can be found in the CalEEMod User's Guide Appendices A, D, and E (CAPCOA 2017). The input data and subsequent construction and operation GHG emission estimates for the proposed project are discussed below. CalEEMod output files for the project are included in Appendix A to this report.

For the purposes of the GHG analysis, only mobile trips from the project's new warehouse uses were included in the model. Per the project's TIA, the public works yard is only a relocation (i.e., existing trips from the public works yard would be relocated from its current location to the project site). In terms of the global impact of GHG emissions, these trips would remain the same as currently exist and are therefore not included in the model as new trips.

Electricity emissions are calculated by multiplying the energy use times the carbon intensity of the utility district per kilowatt hour (CAPCOA 2017). The project would be served by PG&E. Therefore, PG&E's 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 2009 data by default at which time PG&E had only achieved a 14.1 percent procurement of renewable energy (CPUC 2011). Per SB 100, the statewide Renewable Portfolio Standard (RPS) Program requires electricity providers to increase procurement from eligible renewable energy sources to 60 percent by 2030. To account for the continuing effects of the RPS, the energy intensity factors included in CalEEMod were reduced based on the percentage of renewables reported by PG&E.

a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

Construction Emissions

It was assumed that construction activity would begin in May 2020 with completion by December 2021. As shown in Table 11, construction activity for the project would generate an estimated 636 MT CO_2e. When amortized over a 30-year period, construction of the project would generate approximately 21 MT CO_2e per year.

Table 11 Estimated Construction GHG Emissions

Year	Project Emissions (MT/yr CO_2e)[1]
Total	635.9
Total Amortized over 30 Years	21.2

[1] CalEEMod construction default periods were utilized.
See Appendix A for CalEEMod worksheets.

Operational and Total Project Emissions

Table 12 combines the construction and operational GHG emissions associated with development of the project. As shown, annual emissions from the proposed project would be approximately 790.5 MT CO_2e. Taking into account the project's service population of 286 employees (see Table 3 for methodology), the project would result in 2.8 MT CO_2e per service population per year. These emissions would not exceed the 2.8 MT CO_2e per service population per year threshold. Therefore, the project's GHG emissions would have a less than significant impact.

Table 12 Combined Annual Emissions of Greenhouse Gases

Emission Source	Annual Emissions MT CO_2e
Construction	21.2
Operational	
Area	<0.1
Energy	130.2
Solid Waste	68.3
Water	78.0
Mobile	
CO_2 and CH_4	487.1
N_2O	5.7
Total Emissions	**790.5**
Service Population (employees)	286
Emissions per Service Population (MT CO2e/SP/year)	2.8
Project-specific Efficiency Threshold	2.8
Exceeds Threshold?	**No**[1]

See Appendix A for CalEEMod results and N_2O mobile emissions modeling.

[1] Emissions greater than 2.8 MT CO_2e per service population per year may conflict with substantial progress toward GHG reduction targets; as the project does not exceed this number, it would not exceed the threshold.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City of Salinas or any regional agency has not prepared a qualified GHG reduction plan that is applicable to the proposed project. In addition, the City's current General Plan does not contain policies adopted for the purpose of reducing GHG emissions.

AMBAG 2040 MTP/SCS

The AMBAG 2040 MTP/SCS was created to outline a growth strategy to meet GHG emission reduction targets to be achieved from passenger vehicles by 2020 and 2035. This is through an SCS land use development pattern that complements the proposed transportation network which emphasizes multimodal system enhancements, system preservation, and improved access to high quality transit. The focus of the multimodal system and transit strategy is on urbanized areas, which are better suited to alternative modes of transportation, as opposed to agriculture and the rural, spread out nature of agricultural land use. The proposed project is located adjacent to the Salinas Municipal Airport within the urbanized area in the City with existing transportation infrastructure serving the site. In addition, as discussed in Section 3, *Air Quality*, the project would not exceed the population growth assumptions and would not inhibit the measures identified in the 2040 MTP/SCS to meet AMBAG's required targets from being implemented. Therefore, the project would not conflict with the AMBAG 2040 MTP/SCS.

2017 Scoping Plan and EO B-55-18

The 2017 Scoping Plan outlines a pathway to achieving the reduction targets set under SB 32, which is considered an interim target toward meeting the State's long-term 2045 goal established by EO B-55-18. The project would impede substantial progress toward meeting the SB 32 and EO B-55-18 targets if per service person GHG emissions exceeded the locally-appropriate efficiency threshold. As discussed under checklist item a, the project's GHG emissions would not exceed the efficiency threshold. As a result, the project would not conflict with the reduction targets of 2017 Scoping Plan and EO B-55-18.

The 2017 Scoping Plan also provides policies and outlines a pathway to achieving the reduction targets set under SB 32. Many strategies in the Scoping Plan are not applicable to specific project-level applications. Table 13 highlights the Scoping Plan measures applicable to the proposed project.

Table 13 Project Consistency with Applicable Scoping Plan GHG Emission Reduction Strategies

Measure	Consistent?
Implement SB 350 and increase renewable energy production	**Yes;** the project would not interfere with the goal to increase renewable energy production in the State. The project is not located on land slated for renewable energy production. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
Implement Mobile Source Strategy (Cleaner Technology and Fuels)	**Yes;** the project would not interfere with the State-level program increasing the number of clean energy vehicles and improving fuels. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
Increase stringency of SB 375 Sustainable Communities Strategy	**Yes;** the proposed project would not exceed the growth assumptions used in AMBAG's 2040 MTP/SCS. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
By 2019, adjust performance measures used to select and design transportation facilities	**Yes;** the project does not include new transportation facilities. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
Implement the Sustainable Freight Action Plan	**Yes;** the project does not involve or impact any rail lines or freight activity. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
Adopt a Low Carbon Fuel Standard	**Yes;** the project would not interfere with this State-level program. Vehicles accessing the site would use current fuel standards. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
Implement the Short-Lived Climate Pollutant Strategy	**Yes;** this strategy is meant to result in a 40 percent reduction below 2013 levels by 2030 of short-lived GHG pollutants (e.g., methane and HFCs). This strategy focuses on specific sources and sinks of these GHGs, such as livestock, landfills, wastewater, and oil and gas sectors, which would not be applicable to the anticipated uses of the site. In addition, while the proposed project does involve source emissions of short-lived GHG pollutants (e.g., methane), the project would comply with GHG reduction targets of 2030 as shown in Table 12. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the strategy.

Measure	Consistent?
Develop regulations and programs to support organic waste landfill reduction goals	**Yes;** the project would not interfere with organic landfill goals. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
Implement the post-2020 Cap-and-Trade Program	**Yes;** the project would not interfere with implementing the post-2020 Cap-and-Trade Program. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
By 2018 develop Integrated Natural and Working Lands Implementation Plan	**Yes;** the project would not involve the development of an area which stores significant amounts of carbon. The project would also not interfere with the implementation of the Plan. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
Implement Forest Carbon Plan	**Yes;** the project is not located in a forest. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.
Identify and expand funding and financing mechanisms to support GHG reductions	**Yes;** the project would not interfere with funding GHG reductions. Therefore, the project would not inhibit implementation of this measure, and would be consistent with the measure.

Source: CARB 2017

As outlined in Table 13, the project would not conflict with applicable state plans, policies or regulations intended to reduce GHG emissions, and this impact would be less than significant.

LESS THAN 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?*

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?*

Operation

The project would involve the construction of a Public Works Corporation Yard and other light industrial and/or warehouse uses. Depending on the exact nature of future development at the project site, hazardous materials may be used or stored at the project site. However, as with any development, on-site activity involving hazardous substances and the transport, storage, handling of these substances must adhere to applicable local, state, and federal safety standards, ordinances, or regulations. Cal/OSHA is responsible for developing and enforcing workplace safety regulations. Both federal and state laws include special provisions/training in safe methods for handling any type of hazardous substance. These regulations ensure that potential hazards associated with operational activities do not create a significant hazard to the public. Future uses would be required to store hazardous materials in designated areas designed to prevent accidental release into the environment. Potentially hazardous waste produced during operation would also be collected, stored and disposed of in accordance with applicable laws and regulations.

Compliance with existing laws and regulations governing the transport, use, release, and storage of hazardous materials would reduce impacts related to exposure of the public or environment to hazardous materials during planned operations at the project site to less than significant.

Construction

Project implementation would require the use of heavy equipment typical of construction projects, the operation of which could result in a spill or accidental release of hazardous materials, including fuel, engine oil, engine coolant, and lubricants. The transport of any hazardous materials would be subject to federal, state, and local regulations, which would minimize risk associated with the transport hazardous materials. Any construction activities that involve hazardous materials would be required to transport such materials along roadways designated for that purpose in the City or County, thereby limiting risk of upset during transportation.

Although the project site is currently vacant, the location was historically used for agricultural and military purposes. Prior to 1937, aerial imagery shows that the location was under agricultural cultivation. The project site was initially developed in the 1940s by the US Army during World War II as the Salinas Army Airfield. Structures at the project site associated with the military were demolished before 1982 (Kimley-Horn 2019). Since then, the site appears to have been used only for storage ancillary to the Airport, temporary parking, and a water well which has been removed and capped.

Prior inspections conducted at the project site have investigated the presence of hazardous substances and environmental contamination. A Final Site Inspection (SI) report that was prepared by North Wind, Inc. in 2013 identified three Areas of Interest (AOIs) corresponding to locations of possible contamination at the project site. The locations of the three AOIs coincide to two motor repair shops and a dry-cleaning facility that were present during military use of the site. To assess the potential for release of hazardous substances upon development at the project site, Kimley-Horn and Associates, Inc. conducted a limited Phase II Environmental Site Assessment (ESA) in 2019.

This was accomplished through the analysis of soil samples collected from the site at locations corresponding to the previously identified AOIs (Kimley-Horn 2019).

Kimley-Horn did not identify substantial impacts to soil at the site as a result of historical land uses. Elevated soil concentrations of arsenic, chromium and cobalt were identified at the project site. However, the reported concentrations are within the range of normal background concentrations. As such, elevated concentrations of arsenic, chromium and cobalt are attributed to naturally occurring conditions in the absence of a definitive contamination source (Kimley-Horn 2019). Soils with elevated levels of arsenic, chromium and cobalt may cause environmental contamination and impact human health if they are disturbed. Project ground disturbing activities that, such as excavation and grading, have the potential to disturb soil contaminants.

The following mitigation measure would reduce impacts related to soil contaminants present at the project site to a less than significant level.

HAZ-1 Soil Management Plan

Prior to grading, the project applicant shall prepare a Soil Management Plan establishing provisions for the disturbance of contaminated materials (known and undocumented). The SMP shall include, but is not limited to, the following elements:

- A detailed discussion of the site background and presence of elevated levels of arsenic, chromium and cobalt in soils.
- Procedure for handling and disposal of excavated soil stockpiles, including dust and runoff control measures.
- Procedures to follow if evidence of an unknown historic release of hazardous materials (e.g., underground storage tanks, polychlorinated biphenyls [PCBs], asbestos containing materials, etc.) is discovered during excavation or demolition activities.
- A health and safety plan (HSP) for each contractor working at the site that addresses the safety and health hazards of each site operation phase, including the requirements and procedures for employee protection. The HSP shall outline proper soil handling procedures and health and safety requirements to minimize work and public exposure to hazardous materials during construction.

The SMP shall be submitted to the Monterey County Environmental Health Bureau for review and approval. A copy of the documentation shall be submitted to the City of Salinas Community Development Department and the Environmental Maintenance Services Division of the Salinas Public Works Department for approval prior to the issuance of grading permits. Additionally, if reuse of impacted soil is planned, the contractor shall prepare a Soil Reuse Management Plan establishing provisions for the reuse of impacted soils. Proper management and disposition of impacted soils shall be determined in consultation with appropriate regulatory agencies and in accordance with applicable federal and/or state guidance.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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?*

There are no existing or proposed schools within 0.25 mile of the project site. Los Padres Elementary School is located approximately 0.39 mile from the project site. As discussed above under criteria a and b, project construction and operation would not produce hazardous emissions or require the handling of hazardous materials, substances, or wastes. Therefore, the proposed project would have less than significant impact.

LESS THAN 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?*

Kimley-Horn and Associates, Inc. conducted a Phase I ESA in 2018 to research current and historical uses of the project site. As a part of the Phase I ESA prepared for this site, Kimley-Horn utilized EDR to search standard federal and state environmental databases on sites that generate, store, treat, or dispose of hazardous materials and sites for which a release or incident has occurred on the project site and surrounding area.

The subject property is located within a larger area identified as a Formerly Used Defense Site (FUDS). According to Geotracker, an online database maintained by the SWRCB, the project site is located within the Salinas Army Airfield Military Cleanup Site. Cleanup status at this site is listed as completed as of January 2013. As a part of its database search, EDR reviewed certain reports found to be relevant to the site from Geotracker, including a Preliminary Assessment of Salinas Army Airfield for the US Army Corps of Engineers in February 2009 prepared by North Wind Inc. After its investigation, North Wind recommended pursuing a No Department of Defense Actions Indicated (NDAI) letter through the California Department of Toxic Substances Control (DTSC). A formal submittal was made in August 2013. The State Water Resource Control Board accepted North Wind's recommendation for an NDAI. The NDAI letter and suggests that no additional investigation or remediation is required related to past Army related uses at the site (Kimley-Horn 2018).

The SWRCB GeoTracker and California DTSC EnviroStor websites were reviewed for any new cases opened since 2018 that would not have appeared in the 2018 Phase I ESA. No new cases were identified within 0.5 mile of the project site (DTSC 2019, SWRCB 2019). Therefore, project would not create a significant hazard to the public or the environment from existing hazardous materials contamination. This impact would be less than significant.

LESS THAN 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 project site is located immediately adjacent to the Salinas Municipal Airport and falls within the Airport Area of Influence as defined by the 1982 Salinas Municipal Airport Land Use Plan (City of Salinas 1982). According to the City of Salinas General Plan, the majority of the project site falls within the noise contour for 60 dBA CNEL, with the southern corners falling within the contour for 65 dBA CNEL (City of Salinas 2002).

The General Plan defines Noise/Land Use Compatibility Guidelines for areas potentially affected by operations at the Salinas Municipal Airport. It shows that land uses within the Government Services category (which the corporation yard associated with this project would fall under), are acceptable in areas adjacent to the airport when ambient noise does not exceed 70 dBA CNEL (City of Salinas 2002). Therefore, because the project area falls within the noise contours for 60 and 65 dBA CNEL, people working in the project area would not be exposed to excessive noise levels.

The Airport Land Use Plan discusses safety hazards and building restriction areas in the vicinity of the Salinas Municipal Airport. Due to the elevated potential for aircraft accidents in the vicinity, the Airport Land Use Plan specifies examples of preferred land uses that are low occupancy in nature, including industrial uses such as corporation yards and warehouses. The Airport Land Use Plan also outlines Airport Building Restriction Areas that encompass 500 feet on each side of runway centerlines, plus 200 feet past each end and Clear Zones that extend further from the runway ends to enhance protection. Construction of buildings is prohibited in Airport Building Restriction Areas and Clear Zones. The project would be consistent with preferred land uses in the vicinity of the airport and construction would not occur in areas where building construction is prohibited.

Impacts related to noise and safety hazards the project site's proximity to the Salinas Municipal Airport would be less than significant.

LESS THAN SIGNIFICANT IMPACT

f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The project would not develop structures or change circulation or access routes that could potentially impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. The design of new access points would be reviewed and approved by the Salinas Fire Department to ensure that emergency access meets City standards. Therefore, impacts would be less than significant.

LESS THAN 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 project site is located within an urbanized area of the City of Salinas and is in close proximity to existing urban development. Furthermore, the project site is identified as not being within a Very High Fire Hazard Severity Zone (VHFHSZ) and being within an area of local responsibility (California Department of Forestry and Fire Protection [CAL FIRE] 2008). Therefore, the project would not expose people or structures to a significant risk involving wildland fires. There would be no impact.

NO 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?	□	□	■	□

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f. With regard to NPDES compliance:				
(i) Would the project result in the potential impact of project construction on storm water runoff?	☐	☐	■	☐
(ii) Would the project result in the potential impact of project post-construction activity on storm water runoff?	☐	☐	■	☐
(iii) Would the project result in the potential for discharge of storm water from material storage areas, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas?	☐	☐	■	☐
(iv) Would the project result in the potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit?	☐	☐	■	☐
(v) Would the project result in the potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies?	☐	☐	■	☐
(vi) Would the project result in the potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm?	☐	☐	■	☐
(vii) Would the project result in the potential for significant increases in erosion of the project site or surrounding areas?				

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
(viii)	Could this proposed project result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity, and other typical Stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).	□	□	■	□
(ix)	Could the proposed project result in a decrease in treatment and retention capacity for the site's Stormwater run-on?	□	□	■	□
(x)	Could the proposed project result in significant alteration of receiving water quality during or following construction?				
(xi)	Could the proposed project result in increased impervious surfaces and associated increased urban runoff?	□	□	■	□
(xii)	Could the proposed project create a significant adverse environmental impact to drainage patterns due to changes in urban runoff flow rates and/or volumes?	□	□	■	□
(xiii)	Could the proposed project create a significant adverse environmental impact to drainage patterns due to changes in urban runoff flow rates and/or volumes?	□	□	■	□
(xiv)	Could the proposed project alter the natural ranges of sediment supply and transport to receiving waters?	□	□	■	□
(xv)	Is the project tributary to an already impaired water body, as listed on the CWA Section 303(d)	□	□	■	□

		Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
	list? If so, can it result in an increase in any pollutant for which the water body is already impaired?				
(xvi)	Could the proposed project have a potentially significant environmental impact on surface water quality, to either marine, fresh, or wetland waters?	☐	☐	■	☐
(xvii)	Could the proposed project result in decreased baseflow quantities to receiving surface waterbodies?	☐	☐	■	☐
(xviii)	Could the proposed project cause of contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?	☐	☐	■	☐
(xix)	Does the proposed project adversely impact the hydrologic or water quality function of the 100-year floodplain area?	☐	☐	■	☐
(xx)	Does the proposed project site layout adhere to the Permittee's waterbody setback requirements?	☐	☐	■	☐
(xxi)	Can the proposed project impact aquatic, wetland, or riparian habitat?	☐	☐	■	☐

The federal Clean Water Act establishes the framework for regulating discharges to Waters of the United States in order to protect their beneficial uses. The Porter-Cologne Water Quality Act regulates water quality within California and establishes the authority of the SWRCB and the nine Regional Water Quality Control Boards (RWQCBs). The SWRCB requires construction projects to provide careful management and close monitoring of runoff during construction, including on-site erosion protection, sediment management, and prevention of non-storm discharges. The SWRCB and RWQCBs issue NPDES permits to regulate specific discharges. The NPDES Construction General Permit regulates stormwater discharges from construction sites that disturb more than one acre of land.

The project site overlies the Salinas Valley Groundwater Basin (SVGB), which extends from north of Marina and Salinas to the Monterey County/San Luis Obispo County line throughout the Salinas Valley. The site is within the East Side Aquifer Subbasin of the SVGB, which covers 57,500 acres (90 square miles) of the SVGB. The project site is within the Alisal Creek-Salinas River Hydrologic Unit (HUC 180600051509). Surface water flows generally follow local creeks and canals toward the Salinas River. Groundwater is primarily recharged naturally through stream channels and from subsurface inflow from rainfall with recharge primarily from subsurface flow as a result of large-scale groundwater pumping. Groundwater tends to flow down-valley to the south and into a groundwater table depression near the valley margin due to excessive groundwater pumping (DWR 2004).

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Excavation, grading, and other activities associated with construction of the proposed project would result in soil disturbance that could cause water quality violations through potential erosion and subsequent sedimentation of receiving water bodies. Construction activities could also cause water quality violations in the event of an accidental fuel or hazardous materials leak or spill. If precautions are not taken to contain contaminants, construction activities could result in contaminated stormwater runoff that could enter nearby waterbodies. Construction activities resulting in ground disturbance of one acre or more are subject to the permitting requirements of the NPDES General Permit for Stormwater Discharges associated with Construction and Land Disturbance Activities (Construction General Permit Order No. 2009-0009-DWQ). The Construction General Permit requires the preparation and implementation of a SWPPP, which must be prepared before construction begins. The SWPPP includes specifications for BMPs implemented during project construction to minimize or prevent sediment or pollutants in stormwater runoff.

Project construction would comply with the requirements of the Construction General Permit. In addition, the contractor would be required to implement BMPs identified in the SWPPP to prevent construction pollution via stormwater and minimize erosion and sedimentation into waterways as a result of construction. Additionally, the project would be required to comply with the City of Salinas MS4 Permit (Order No. R3-2012-0005, NPDES Permit No. CA0049981), which requires the volume of runoff from an 85th percentile storm event be retained on site through either retention basins or bioretention facilities. The project would be required to include such facilities in the final design plans for the site.

Compliance with the NPDES Construction General Permit would ensure the proposed project would not violate any water quality standards or WDRs, and impacts would be less than significant.

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?

The project site overlies the SVGB, East Side Aquifer Subbasin. DWR has provided a final ranking of this groundwater subbasin as a high priority subbasin that has declining groundwater levels and experiencing saltwater intrusion from the Pacific Ocean (DWR 2019). The Salinas Valley Basin Groundwater Sustainability Agency is developing a draft Groundwater Sustainability Plan (GSP) for the subbasin; however, no sections have been finalized. While the proposed project would construct new impervious surfaces that would prevent groundwater recharge in certain areas of the project site, the project would be required to comply with the City of Salinas MS4 Permit (Order No. R3-2012-0005, NPDES Permit No. CA0049981), which requires the volume of runoff from an 85th percentile storm event be retained on site through either retention basins or bioretention facilities.

The project would be required to include such facilities in the final design plans for the site, which would ensure that groundwater recharge on the site continues, and is not substantially decreased due to surface runoff. Additionally, the proposed uses of the site do not involve substantial extraction or use of groundwater.

The proposed Ground Lease and future development of the project site would increase the water usage on the project site by approximately 100 acre-feet per year (based on CalEEMod modeling results shown in Appendix A). Cal Water provides groundwater to all customers in the Salinas District (Cal Water 2016); therefore, all water provided to the project site would be sourced from off-site groundwater. The Urban Water Management Plan (UWMP) utilized population projections consistent with the City's General Plan to determine future water demand. As described in Section 14, *Population and Housing*, the project would not generate unplanned population growth; therefore, the project would not substantially increase demand for groundwater beyond expected demand forecasts. The proposed project would result in a less than significant impact on groundwater levels.

LESS THAN 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?

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?

Drainage on and in the vicinity of the project site generally follows the gently sloping topography of the site to the southwest. Existing stormwater drainage systems include curb and gutter along existing roadways adjacent to and within the project site. The project would involve grading of the project site and improvements to the existing stormwater drainage of the site. Project construction would not substantially change the topography of the site. However, construction of the proposed project would result in new impervious surfaces, including parking areas and structures. Rainfall onto the project site would run off the new surfaces and be incorporated into surface runoff. The project would include construction of new on-site stormwater drainage facilities that would convey runoff to the existing off-site municipal stormwater drainage system. Additionally, the project would be required to comply with the City of Salinas MS4 Permit (Order No. R3-2012-0005, NPDES Permit No. CA0049981), which requires the volume of runoff from an 85^{th} percentile storm event be retained on site through either retention basins or bioretention facilities. The project would be required to include such facilities in the final design plans for the site.

As stated previously, project construction would be conducted in compliance with the State's Construction General Permit (Order No. 2009-0009-DWQ). Preparation of the SWPPP in accordance with the Construction General Permit would require erosion-control BMPs at the construction areas. BMPs that are typically specified within the SWPPP may include, but would not be limited to, temporary measures during construction, revegetation, and structural BMPs. Therefore, the project would not cause substantial erosion or siltation during construction.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the project site and surrounding area is located within Flood Zone X, outside the 100-year Flood Hazard Area (FEMA 2009). Therefore, the project would not alter the flood zone boundaries or cause excess flooding downstream of the site. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

According to FEMA Flood Insurance Rate Maps, the project site and surrounding area is located within Flood Zone X, outside the 100-year Flood Hazard Area (FEMA 2009). Any materials stored on the project site that could pollute runoff from flood events would be properly contained and stored per applicable local, state, and federal regulations (refer to Section 9, *Hazards and Hazardous Materials*, for additional information). There are no major water bodies within two miles of the site that could cause impacts from seiches on the project site. Further, the City's General Plan states that tsunamis and seiches are not considered potential hazards (City of Salinas 2002). Therefore, inundation of the site would not occur during the 100-year flood, the project would not release pollutants into floodwaters, and this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

As stated previously, the Salinas Valley Basin Groundwater Sustainability Agency is preparing a GSP, but no draft version is currently available. The Water Quality Control Plan for the Central Coast Basin, prepared by the RWQCB, Central Coast Region (CCRWQCB), in June 2019, provides water quality requirements for surface and groundwater in the basin based on the type of use. The plan includes potential beneficial uses for waterways within the basin, including Alisal Creek, which is located approximately 0.25 mile west of the project site and is the closest waterway to the project site. This creek is identified as having municipal and domestic, agricultural supply, groundwater recharge, contact and non-contact recreation, wildlife habitat, cold freshwater habitat, warm freshwater habitat, fish spawning or early development, and commercial and sport fishing uses. The plan includes water quality objectives, including dissolved oxygen content, pH level, radioactivity, color, taste and odor, material content, oil and grease content, sediment, turbidity, toxicity, temperature, pesticides, chemicals, and other potential pollutants (CCRWQCB 2017).

The project would not require substantial amounts of groundwater or otherwise affect the existing management strategies of the subbasin. The project would comply with NPDES and MS4 permits regarding pollution of surface waters and surface runoff. Overall, the proposed project would not conflict the implementation of the applicable water quality control plan and groundwater management plan, and no impact would occur.

NO IMPACT

f. (i) Would the project result in the potential impact of construction on storm water runoff?

f. (ii) Would the project result in the potential impact of project post- construction activity on storm water runoff?

f. (iii) Would the project result in the potential for discharge of storm water from material storage areas, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas?

f. (iv) Would the project result in the potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit?

f. (v) Would the project result in the potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies?

f. (vi) Would the project result in the potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm?

f. (vii) Would the project result in the potential for significant increases in erosion of the project site or surrounding areas?

f. (viii) Could this proposed project result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity, and other typical Stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).

f. (ix) Could the proposed project result in a decrease in treatment and retention capacity for the site's Stormwater run-on?

f. (x) Could the proposed project result in significant alteration of receiving water quality during or following construction?

f. (xi) Could the proposed project result in increased impervious surfaces and associated increased urban runoff?

f. (xii) Could the proposed project create a significant adverse environmental impact to drainage patterns due to changes in urban runoff flow rates and/or volumes?

f. (xiii) Could the proposed project result in increased erosion downstream?

f. (xiv) Could the proposed project alter the natural ranges of sediment supply and transport to receiving waters?

f. (xv) Is the project tributary to an already impaired water body, as listed on the CWA Section 303(d) list? If so, can it result in an increase in any pollutant for which the water body is already impaired?

f. (xvi) Could the proposed project have a potentially significant environmental impact on surface water quality, to either marine, fresh, or wetland waters?

f. (xvii) Could the proposed project result in decreased baseflow quantities to receiving surface waterbodies?

f. (xviii) Could the proposed project cause of contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?

f. (xix) Does the proposed project adversely impact the hydrologic or water quality function of the 100-year floodplain area?

f. (xx) Does the proposed project site layout adhere to the Permittee's waterbody setback requirements?

f. (xxi) Can the proposed project impact aquatic, wetland, or riparian habitat?

As previously stated in criteria a, b and c above, the project would comply with the permitting requirements of the NPDES General Permit for Stormwater Discharges and Best Management Practices (BMP's) associated with Construction and Land Disturbance Activities (Construction General Permit Order No. 2009-0009-DWQ). In addition, the project would comply with City of Salinas MS4 Permit (Order No. R3-2012-0005, NPDES Permit No. CA0049981), which requires the volume of runoff from an 85^{th} percentile storm event be retained on site through either retention basins or bioretention facilities. As discussed above, the project would not result in a decrease in water quality, substantially impact drainage characteristics at the project site, alter aquatic, wetland or riparian habitat and would comply with applicable local, state and federal regulations. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

The proposed project site includes approximately 13.25 acres of vacant land between Airport Boulevard and the Salinas Municipal Airport. No major structures are present at the project site, other than a 600-square foot storage shed and several utility poles. The project site is bounded by Airport Boulevard to the northwest, Mortensen Avenue to the southeast, Skyway Boulevard to the northeast and Mercer Way to the southwest. Jeffery Avenue and Anderson Avenue run through the project site. The project site is relatively flat with no notable topographic variations, dominated by seasonal grasses and seven total trees, and is mostly unpaved, with the exception of internal roadways. The project was initially developed in the 1940s by the US Army during World War II as the Salinas Army Airfield, and structures at the project site associated with the military were demolished before 1982, and the site has not seen further use since.

The project site is immediately adjacent to land zoned as Public/Semipublic to the west, south, east, and northeast, and alternating Public/Semipublic and Industrial—Business Park to the north and northwest. The surrounding vicinity also includes area zoned for Parks to the north and northeast, Open Space along Alisal Creek to the west, and Residential Low Density beyond the Open Space designation to the west. Land immediately to the south, east, and west of the project site is occupied by the Salinas Municipal Airport and to the north is a small business park. The airport includes hangars and storage facilities, aviation business operations, and various airport-related offices adjacent to the site. The small business park includes administrative offices for a health clinic, an airport RV storage facility, Monterey County Mosquito Abatement District offices, and the offices of Ramco Enterprises and Ramirez Harvest Inc. Surface parking is present within this business park. Other developments in the surrounding vicinity include the Elks Lodge #614, Salinas Fairways Golf Course, an Industrial Business Park just south of the Airport's fenced area, and single-family residential homes located in a neighborhood oriented along Fairview Avenue west of the site. Nearby environmental features include a section of Alisal Creek, which flows south to north and is located approximately 0.25 mile west of the project site, and undeveloped public/semipublic-designated land along Airport Boulevard located between US Highway 101 and Elks Lodge #614.

The project is located on one parcel adjacent to the Salinas Municipal Airport and existing industrial/commercial development. The project would not result in the construction of any new roads or walls, and would remove Jeffery Avenue, Anderson Avenue, and the unnamed roadway between Jeffery Avenue and Anderson Avenue. The project is not located near any existing residential communities, and the project site consists of a single parcel. Therefore, the project would not physically divide an established community.

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 project site is zoned as Public/Semipublic (PS) and is within the Airport Overlay (AR) District (City of Salinas 2012).

The Salinas General Plan identifies that properties designated as Public/Semipublic are appropriate for "schools, hospitals, libraries, utilities, airport (precise uses for the airport property will be defined in the Airport Master Plan), and government institutions." The proposed lease is largely consistent with the Airport Master Plan, as noted below.

Section 37-10.400 of the Salinas Municipal Code (SMC) defines Public and Semipublic Uses as "a class of uses generally open to the public and maintained and supported by public or nonprofit agencies or organizations and which are of a recreational, civic, educational, religious, institutional, or cultural nature." The Public/Semipublic zoning designation allows for the development of the following uses with no permits required:

- Disaster shelters
- Accessory utilities
- Emergency shelters
- Minor telecommunications facilities

This zoning also allows for the following uses with either a conditional use permit, site plan review, or temporary use permit:

- Airports and heliports
- Outdoor facilities
- Clubs and lodges
- Day care centers
- Hospitals
- Park and recreation facilities
- Religious assembly
- Airport-related uses
- Airports
- Convalescent hospital and nursing homes
- Detention facilities
- Major maintenance and repair services
- Parking lots and structures
- Public/private schools
- Commercial recreation and entertainment
- Cemeteries
- Cultural institutions
- Government offices
- Open space
- Public safety facilities
- Major telecommunications facilities

Additionally, the City Council will soon consider a proposed Zoning Code Amendment to allow residential uses in the PS District; however, under the proposed Zoning Code Amendment, residential uses would not be allowed on the project site because it is located within the Airport Overlay District.

Pursuant to SMC Section 37-10.070, as the project site is on land owned by the City of Salinas, uses in addition to those identified above may be considered for the site provided that the City Council makes the determination that the property is “developed and used for such public purposes and in such a manner as…to be proper and in the public interest.” Allowable uses for the project site would therefore be defined by the Ground Lease (as defined below).

The Airport Overlay District defines the Airport Area of Influence and Affected Parcels surrounding the Salinas Municipal Airport. Per Section 37-40.430 of the SMC, development review applications within the Airport Overlay District are subject to review by the Public Works Director to ensure conformance with the SMC.

Salinas Municipal Airport Land Use Plan

The project site is located within the Airport Overlay (AR) District. The Airport Land Use Plan shows that the project site is located outside of the Building Restriction Areas and within an area designated aviation-related commercial/assembly and non-aviation related commercial (Salinas Community Development Department 1982). The proposed project is consistent with the Salinas Municipal Airport Land Use Plan policies, the Salinas General Plan, and the Salinas Municipal Code, including airport building restrictions, height restrictions (Ordinance No. 1214), developing the Salinas Airport with general aviation, promoting safety from aircraft hazards and lower intensity of uses shall be encouraged (Policy 3), development of adjacent land to the south of the airport shall be used for expansion and industrial development (Policy 6), and preservation of prime agricultural land to the east and south of the airport (Policy 7). The project does not include any development on lands east or south of the airport. Additionally, pursuant to the Airport Land Use Plan, all development plans for parcels located on airport property must be submitted to the FAA, who determines compliance with the building restriction area requirements.

The proposed project would be consistent with adopted policies and plans and would not cause a significant environmental impact due to a conflict with a land use plan, policy or regulation. Impacts would be less than significant.

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?

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 project site and surrounding properties are part of an urbanized area of Salinas with no active mineral resource extraction (DOC 2015). The project site is not used or otherwise identified for mineral resource extraction (City of Salinas, 2002). No mineral resource activities would be altered or displaced by the proposed project. Therefore, the project would have no impact with respect to mineral resources.

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?	☐	☐	■	☐

Noise Fundamentals

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

Sound pressure level is measured on a logarithmic scale with the 0 dBA level based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). Based on the logarithmic scale, a doubling of sound energy is equivalent to an increase of 3 dBA, and a sound that is 10 dBA less than the ambient sound level has no effect on ambient noise. Because of the nature of the human ear, a sound must be about 10 dBA greater than the ambient noise level to be judged as twice as loud. In general, a 3 dBA change in the ambient noise level is noticeable, while 1-2 dBA changes generally are not perceived. Quiet suburban areas typically have noise levels in the range of 40-50 dBA, while areas adjacent to arterial streets are typically in the 50-60+ dBA range. Normal conversational levels are usually in the 60-65 dBA range and ambient noise levels greater than 65 dBA can interrupt conversations.

Noise levels from point sources, such as those from individual pieces of machinery, typically attenuate (or drop off) at a rate of 6 dBA per doubling of distance from the noise source. Noise levels from lightly traveled roads typically attenuate at a rate of about 4.5 dBA per doubling of distance. Noise levels from heavily traveled roads typically attenuate at about 3 dBA per doubling of distance. Noise levels may also be reduced by intervening structures; generally, a single row of buildings between the receptor and the noise source can reduces noise levels by about 5 dBA, while a solid wall or berm can reduce noise levels by 5 to 10 dBA (Federal Transit Administration [FTA] 2006). The manner in which homes in California are constructed generally provides a reduction of exterior-to-interior noise levels of approximately 20 to 25 dBA with closed windows (FTA 2006).

The duration of noise is important because sounds that occur over a long period of time are more likely to be an annoyance or cause direct physical damage or environmental stress. One of the most frequently used noise metrics that considers both duration and sound power level is the equivalent noise level (Leq). The Leq is defined as the single steady A-weighted level that is equivalent to the same amount of energy as that contained in the actual fluctuating levels over a period of time (essentially, the average noise level). Typically, Leq is summed over a one-hour period. Lmax is the highest RMS (root mean squared) sound pressure level within the measurement period, and Lmin is the lowest RMS sound pressure level within the measurement period.

The time period in which noise occurs is also important since nighttime noise tends to disturb people more than daytime noise. Community noise is usually measured using the Day-Night Average Level (Ldn), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime (10 p.m. to 7 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 p.m. to 10 p.m. and a 10 dBA penalty for noise occurring from 10 p.m. to 7 a.m.. The Ldn and CNEL typically do not differ by more than 1 dBA. In practice, CNEL and Ldn are often used interchangeably.

Some land uses are more sensitive to ambient noise levels than other uses due to the amount of noise exposure and the types of activities involved. For example, residences, motels, hotels, schools, libraries, churches, nursing homes, auditoriums, museums, cultural facilities, parks, and outdoor recreation areas are more sensitive to noise than commercial and industrial land uses.

Vibration

Vibration is a unique form of noise because its energy is carried through buildings, structures, and the ground, whereas sound is simply carried through the air. Thus, vibration is generally felt rather than heard. Some vibration effects can be caused by noise (e.g., the rattling of windows from passing trucks). This phenomenon is caused by the coupling of the acoustic energy at frequencies that are close to the resonant frequency of the material being vibrated. Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. The ground motion caused by vibration is measured as particle velocity in inches per second and is measured in vibration decibels (VdB).

The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources inside buildings such as the operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads.

Vibration impacts would be significant if they exceed the following Federal Railroad Administration (FRA) thresholds:

- 65 VdB where low ambient vibration is essential for interior operations, such as hospitals and recording studios
- 72 VdB for residences and buildings where people normally sleep, including hotels
- 75 VdB for institutional land uses with primary daytime use, such as churches and schools
- 95 VdB for physical damage to extremely fragile historic buildings
- 100 VdB for physical damage to buildings

Environmental Setting

The project site is adjacent to the Salinas Municipal Airport and a business park. The nearest sensitive noise receptors include single family residences to the west and Los Padres Elementary School to the northwest. The residences nearest to the project site are located approximately 1,200 feet to the west and the elementary school is located approximately 2,000 feet to the northwest. Given its location, the project site is subject to noise impacts from surrounding roadways and operations at the Salinas Municipal Airport. As noted above in Item 9, *Hazards and Hazardous Materials*, criteria (e), the project site falls within the Airport Area of Influence (City of Salinas 1982) and the majority of it is within 60 dBA CNEL noise contour, with the southern corners falling within the 65 dBA CNEL contour (City of Salinas 2002).

Regulatory Setting

Federal Transit Administration

The FTA has recommended noise criteria related to traffic-generated noise in *Transit Noise and Vibration Impact Assessment* that can be used to determine whether a change in traffic would result in a substantial permanent increase in noise (FTA 2006). Table 14 shows the significance thresholds for increases in traffic-related noise levels. These standards are applicable to project impacts on existing sensitive receptors (as defined under *Environmental Setting* above).

Table 14 Significance of Changes in Operational Roadway Noise Exposure

Existing Noise Exposure (dBA DNL or Leq)	Allowable Noise Exposure Increase (dBA DNL or Leq)
45-49	7
50-54	5
55-59	3
60-64	2
65-74	1
75+	0

dBA = A-weighted sound pressure level
DNL =Day-Night Average Level
Leq =Equivalent continuous sound level
Source: FTA 2006

In addition to the groundborne vibration thresholds outlined above, FTA provides human responses to different levels of groundborne vibration and recommends vibration impact thresholds to determine whether groundborne vibration would be "excessive." Groundborne vibration impact criteria for residential receptors are 72 VdB for frequent events, 75 VdB for occasional events, and 80 VdB for infrequent events (FTA 2006). With regard to groundborne vibration impacts on structures, the FTA states that groundborne vibration levels in excess of 100 VdB would damage fragile buildings. The City does not have specific policies pertaining to vibration, therefore, FTA standards will be used when determining significance of vibration impacts (FTA 2006).

City of Salinas

CITY OF SALINAS MUNICIPAL CODE

Section 37-50.180 of the Zoning Code identifies performance standards for noise. The project site is zoned as Public/Semipublic; therefore, noise levels would be required to be maintained at or below 60 dBA CNEL.

CITY OF SALINAS 2002 GENERAL PLAN

The City's General Plan contains a Noise Element which identifies and appraises existing noises in Salinas and provides guidance to avoid noise-related impacts in the future. Table 15 and Table 16, below, shows the land use compatibility matrix from the General Plan. In addition, noise-related goals, polices and implementation plans relevant to this project are provided below (City of Salinas 2002):

Table 15 City of Salinas Noise/Land Use Compatibility Matrix

	Community Noise Exposure (Ldn or CNEL, dBA)			
Land Use	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential	50-60	60-70	70-75	75-85
Transient Lodging – Motel, Hotel	50-60	60-75	75-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-60	60-70	70-80	80-85
Auditoriums, Concert Halls, Amphitheaters	NA	50-70	NA	70-85
Playgrounds, Parks	50-70	NA	70-75	75-85
Golf Course, Riding Stables, Water Recreation, Cemeteries	50-70	NA	70-80	80-85
Office Buildings, Business Commercial, and Professional	50-65	60-75	75-85	NA
Industrial, Manufacturing, Utilities, Agriculture	50-70	70-80	80-85	NA

Source: City of Salinas2002

In addition, the General Plan provides noise-related polices and implementation programs applicable to the project. Policy N-1.3 states that only urban development compatible with an airport noise environment should be located within the Airport Area of Influence. Policy N-1.4 requires that proposed development meets Title 24 Noise Insulation Standards. Implementation Program N-3 requires all construction activity to comply with the limits (maximum noise levels, hours and days of allowed activity) established in the City noise regulations (Title 24 California Code of Regulations, Zoning Ordinance and Chapter 21A of the Municipal Code) (City of Salinas 2002).

The General Plan also defines Noise/Land Use Compatibility Guidelines for areas potentially affected by operations at the Salinas Municipal Airport. Project consistency with airport related noise regulations is discussed further under criteria (c) below.

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

The project would involve removal of existing roadways, trees and the storage shed at the project site, grading, and construction of a city operated Public Works Corporation Yard. Construction would also be required to further develop the site to accommodate an additional light industrial and/or warehouse use. Temporary noise would be generated by these demolition and construction activities. Noise impacts associated with construction activity are a function of the noise generated by construction equipment, the location and sensitivity of nearby land uses, and the timing and duration of the noise-generating activities. The City of Salinas does not currently have any established quantitative noise standards for construction associated noise (City of Salinas 2002).

Table 16 provides estimates of typical noise levels generated by common construction equipment at 50 feet. Construction noise estimates are taken from the Federal Transit Administration's Transit Noise and Vibration Impact Assessment Manual (FTA 2018). A project-specific construction equipment list is not currently available; therefore, commonly used types of equipment were included. Noise levels at 1,200 feet were calculated using a standard attenuation rate for point sources of noise and are provided for informational purposes.

Table 16 Construction Equipment Noise Emission Levels

Equipment	Typical Noise Level 50 ft from Source, dBA	Typical Noise Level 1,200 ft from Source, dBA[1]
Air Compressor	80	45.5
Backhoe	80	45.5
Compactor	82	47.5
Dozer	85	50.5
Jack Hammer	88	53.5
Loader	80	45.5
Pneumatic Tools	85	50.5
Roller	85	50.5
Scraper	85	50.5

[1] Calculated using a standard formula for noise attenuation

Source: FTA 2018

At 50 feet, construction related noise levels could range from 80-88 dBA. However, noise levels would drop substantially at a distance of 1,200 feet, potentially ranging from 45.5-53.5 dBA. As such, the nearest sensitive receptors, residences located approximately 1,200 feet to the west, would not experience substantial noise-related impacts due to construction. Therefore, increases in ambient noise due to project construction would be less than significant.

Operation

The proposed project would facilitate the development of a city operated Public Works Corporation Yard and a light industrial and/or warehouse use at the project site. Operation of the proposed development would potentially increase ambient noise from both on-site operational noise and off-site roadway noise.

On-site stationary noise would be generated as a result of mechanical equipment such as heating, ventilation, and air condition (HVAC) equipment typically located on the roof of a building or within an interior mechanical room. Specific planning data for the future HVAC systems are not available at this stage of project design. However, given that nearest sensitive receptors are located approximately 1,200 feet west of the project site, noise attenuation across this distance would result in a negligible change to ambient noise levels.

To analyze potential impacts of increased traffic on surrounding roadways, Kimley-Horn and Associates, Inc. prepared a Transportation Impact Analysis in September 2019. Several intersections and highway on-ramps near the project were included in the study. The study provides existing traffic counts and future conditions were modeled under Existing Plus Project, Background, Background Plus Project, Cumulative and Cumulative Plus Project scenarios (See Item 17, *Transportation*, for further explanation of modeling scenarios).

Of the intersections included in the study, the roundabout at the intersection of East Alisal Street and Skyway Boulevard is located closest to a sensitive receptor, Los Padres Elementary School, approximately 1,000 feet to the southwest. For informational purposes, the relative increase in noise due to traffic was calculated at this intersection. To perform this calculation, traffic volumes from Existing AM and PM Peak Hours and Existing Plus Project AM and PM Peak Hours were utilized. Table 17 shows that the increase in noise level due to project traffic would be approximately 1.0 dBA at the intersection of East Alisal Street and Skyway Boulevard.

Table 17 Relative Increase in Noise Levels due to Traffic

Intersection	Existing Peak Hour Traffic Volume	Future Peak Hour Traffic Volume	Percent Increase in Traffic Volume	Increase in Noise Level (dBA)[3]
East Alisal Street & Skyway Boulevard	3,184[1]	4,000[2]	25.6%	1.0

[1] Existing Peak Hour Traffic Volume = Existing AM Peak Hour + Existing PM Peak Hour

[2] Future Peak Hour Traffic Volume = Existing Plus Project AM Peak Hour + Existing Plus Project PM Peak Hour

[3] Increase in Noise Level (dBA) = 10*LOG10(1+25.6%)

Source: Kimley-Horn 2019 (see Appendix B)

Potential land uses and increased noise due to traffic would not generate noise levels that would exceed the thresholds listed above. The nearest residences are 1,200 feet to the west and Los Padres Elementary School is located 2,000 feet to the northwest and would not be affected by operations at the project site. Further, all development at the site would be required to comply with all established regulations and standards. The project would not result in generation of a substantial permanent increase in ambient noise levels near the project. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Table 18 identifies vibration velocity levels for the project's potential construction equipment.

Table 18 Vibration Source Levels for Construction Equipment

	Approximate VdB			
Equipment	25 feet	100 feet	500 feet	1,200 feet
Vibratory Roller	94	76	55	44
Hoe Ram	87	69	48	37
Large Bulldozer	87	69	48	37
Caisson Drilling	87	69	48	37
Jackhammer	79	61	40	28
Loaded Trucks	86	68	47	35

Source: USDOT 1998

As illustrated in Table 18, vibration levels could reach approximately 44 vibration decibels (VdB) at the nearest sensitive receptor, residences located approximately 1,200 feet to the west. These levels would not exceed the groundborne velocity threshold level of 100 VdB general threshold established by the FTA for minor damage to fragile buildings. Therefore, impacts resulting from temporary construction vibration would be less than significant.

LESS THAN 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?*

The project site is located immediately adjacent to the Salinas Municipal Airport and would experience noise-related impacts due to airport operations. As discussed above, the project site falls within the Airport Area of Influence as defined by the 1982 Salinas Municipal Airport Land Use Plan (City of Salinas 1982). According to the City of Salinas General Plan, the majority of the project site falls within the noise contour for 60 dBA CNEL, with the southern corners falling within the contour for 65 dBA CNEL (City of Salinas 2002).

Table N-4 in the General Plan defines Noise/Land Use Compatibility Guidelines for areas potentially affected by operations at the Salinas Municipal Airport. It shows that land uses within the Government services category (which the corporation yard associated with this project would fall under), are acceptable in areas adjacent to the airport when ambient noise does not exceed 70 dBA CNEL (City of Salinas 2002). Therefore, because the project area falls within the noise contours for 60 and 65 dBA CNEL, people working in the project area would not be exposed to excessive noise levels. Impacts would be less than significant.

LESS THAN 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)?

The proposed project would involve the construction of a Public Works Corporation Yard and development of facilities to accommodate light industrial and/or warehouse uses at the project site. No permanent residences are included; therefore, the project would not directly induce population growth to the City. The proposed project could generate 288 jobs that could indirectly generate population growth and a greater need for employee housing. This incremental increase in employment opportunities in the city would not substantially induce population growth through the provision of new jobs. No new roads or infrastructure are proposed. Therefore, the project would not result in direct or substantial indirect population growth within the City of Salinas or the region. This impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The project site is currently vacant. There are no existing housing units on the project site or people residing on the project site in temporary housing. Therefore, the project would not displace existing housing units or people. No impact would occur.

NO 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?

The Salinas Fire Department (SFD) provides all-risk fire protection to the City of Salinas in the form of fire suppression, search and rescue, emergency medical services, operational training, disaster preparedness, community education, and other services based on community needs. As of August 2019, 75 full-time shift personnel are employed by the SFD and no less than 24 personnel are on-duty at all times. SFD operates with three platoons (A, B and C). Each platoon has six engine companies that are made up of a Captain, Engineer, and Firefighter, with one of the members being a Paramedic. The department has six pumper trucks, two ladder trucks, a crash truck for airport emergencies and other service vehicles (ESCI 2019).

The SFD has established performance goals for the first unit response time of within five minutes, 20 seconds, 90 percent of the time for fire incidents, within five minutes, 90 percent of the time for emergency medical incidents and within five minutes, 20 seconds, 90 percent of the time for all other priority incidents. Overall, response time for all priority incidents was within seven minutes, 23 seconds, 90 percent of the time during 2018, indicating that the SFD is not meeting its performance goals (ESCI 2019).

SFD Fire Station #4 is closest to the project site at 308 Williams Road, approximately 0.65 mile north. The project site is in the existing service area of the SFD. All future development at the project site would be required to comply with applicable Fire Code requirements and would be reviewed by the SFD prior to construction. Given that the project would not include any new residences or induce substantial population and job growth in Salinas, the project would not create excessive demand for emergency services or introduce development to areas outside of normal service range that would necessitate new fire protection facilities. With the continued implementation of existing practices, including compliance with the California Fire Code, future development of the project site would undergo review by the Salinas Fire Department during the Building Permitting process to ensure adequate access, consistency with existing facilities, and acceptable response times. Impacts would be less than significant.

LESS THAN 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 Salinas Police Department (SPD) provides police protection in the City of Salinas.

The Department has 146 full-time sworn officers, including one chief, two assistant chiefs, seven Commanders, 21 Sergeants and 115 Officers. The Department benefits from the service of five civilian volunteers and five retired annuitant police officers. Under this sworn staffing level, the Department has 1.00 sworn officers for every 1,088 residents. The Department is divided into three divisions; Field Operations, Investigations and Administration. The Field Operations Division is headed by one Assistant Chief who oversees the Patrol Division, K-9 Unit, and the Field Training and Evaluation Program (FTO). In 2017, the Salinas Police Department had 109,180 calls for service (De Novo 2019).

The police department communications center screens and assign calls on a priority basis based on the nature of the problem. Department response time data is currently unavailable; however, the highest priority calls are typically answered within a few minutes. Less urgent calls can take longer depending on availability of the police officers and other calls the department is responding to at the time.

The nearest police station is at 222 Lincoln Avenue, approximately 2.4 miles northwest of the project site; however, a new Police Station is currently being constructed at 312 East Alisal Street, which is located approximately 1.7 miles northwest of the project site, with expected completion in Spring 2020. The project site is in the SPD service area. All future development at the project site would be reviewed by the SPD prior to construction. Given that the project would not include any new residences or induce substantial population and job growth in Salinas, the project would not increase SPD service population, create excessive demand for police services, or introduce development to areas outside of normal service range that would necessitate new or expanded police protection facilities. Impacts would be less than significant.

LESS THAN 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 project would be located in the Salinas City and the Salinas Union High School Districts (City of Salinas, 2017). The project would not involve housing and would not indirectly increase the number of permanent residents living in Salinas. Therefore, the project would not significantly impact school enrollment in the Salinas City or Salinas Union High School District and would not result in the need for new or expanded school facilities. Impacts would be less than significant.

NO IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, public facilities, 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 discussed in Section 16, *Recreation*, the project would not substantially alter citywide demand for parks and it would not involve off-site improvements or construction that would directly affect recreational facilities. Impacts would be less than significant.

LESS THAN 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 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?

As discussed in Section 14, *Population and Housing*, the proposed project would not result in population growth. Construction of other new facilities, such as libraries, would not be required. No impact would occur.

NO IMPACT

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?

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?

The proposed project would involve the construction of a Public Works Corporation Yard and development of facilities to accommodate light industrial and/or warehouse uses at the project site. The site would be developed in accordance with the Development Regulations and Design Standards of the City's Public/Semipublic (PS) with an Airport Overlay District zoning. None of these potential land uses would result in substantially increased demand or significant deterioration of recreational facilities. Employees working at the project site could potentially use nearby parks and recreational facilities in the city. However, this use would be temporary and intermittent and would not result in substantially increased demand or significant deterioration of recreation facilities. As discussed in Section 13, *Population and Housing*, the project would not directly induce population growth in the surrounding area. Therefore, the project would not substantially alter citywide demand for parks.

None of the potential land uses would include the development of recreational facilities. The nearest recreational facility is the Salinas Fairways Golf Course, located approximately 500 feet from the project site. The Salinas Fairways facility is approximately 132 acres in size and includes an 18-hole golf course, driving range, practice green, golf shop, café and parking area (Salinas Fairways Golf Course 2019). The project would not involve off-site improvements or construction that would directly affect recreational facilities. A less than significant impact to parks or recreational facilities would occur.

LESS THAN 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?	☐	☐	■	☐

The analysis in this section is based primarily on a Transportation Impact Analysis produced by Kimley-Horn in September 2019. The study is included in this Initial Study as Appendix B.

Study Intersections and Roadway Segments

Roadway conditions during the weekday AM and PM peak periods were evaluated at the following five intersections:

- Northbound Highway 101 Ramps & Roy Diaz Street
- Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps
- Roy Diaz Street & Airport Boulevard
- Skyway Boulevard & Airport Boulevard
- East Alisal Street & Skyway Boulevard

The conditions during the weekday AM and PM peak periods were also evaluated on the following two segments of Highway 101:

- Highway 101 (from Fairview Avenue to Airport Boulevard)
- Highway 101 (Airport Boulevard to Roy Diaz Street)

The weekday AM peak period occurs between 7:00 a.m. and 9:00 a.m., while the weekday PM peak period occurs between 4:00 p.m. and 6:00 p.m. These time periods were chosen because they both reflect typical commute periods when the project area and surrounding area experiences the greatest congestion.

Study Methodology

Level of Service (LOS) is used to rank traffic operation on various types of facilities based on traffic volumes and roadway capacity using a series of letter designations ranging from A to F. Generally, LOS A represents free flow conditions and LOS F represents forced flow or breakdown conditions. A unit of measure that indicates a level of delay generally accompanies the LOS designation. The City of Salinas's threshold for acceptable operation is LOS D. Caltrans defines an acceptable level of service as the transition between LOS C and D (LOS C/D) for study intersections and roadway segments under its jurisdiction. The Study Significant impacts are defined to occur when the addition of project traffic causes intersection operations to degrade from an acceptable level to an unacceptable level, or if project traffic is added to an intersection operating at an unacceptable level.

Caltrans considers an impact to be significant on a roadway segment when project traffic causes that roadway segment to degrade to LOS D or worse. The study intersections were analyzed using the signalized and unsignalized (two-way stop-controlled) methodologies published in the *Highway Capacity Manual* 6th *Edition* (HCM), Transportation Research Board, 2000 and *Synchro 10* traffic analysis software (Kimley-Horn 2019). The LOS standard for the study intersections and roadway segments is shown below in Table 19.

Table 19 Study Intersections and Study Roadway Segments LOS Standard

Intersection	Maintaining Agency	LOS Standard	Intersection Control
Northbound Highway 101 Ramps & Roy Diaz Street	Caltrans	C/D	Side street stop controlled
Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps	Caltrans	C/D	Signalized
Roy Diaz Street & Airport Boulevard	City of Salinas	D	Signalized
Skyway Boulevard & Airport Boulevard	City of Salinas	D	All-way stop controlled
East Alisal Street & Skyway Boulevard	City of Salinas	D	Roundabout
Highway 101 Segment (Fairview Avenue to Airport Boulevard)	Caltrans	C/D	Not applicable
Highway 101 Segment (Airport Boulevard to Roy Diaz Street)	Caltrans	C/D	Not applicable

Source: Transportation Impact Analysis, Kimley-Horn, September 2019 (see Appendix B)

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Trip Generation

The anticipated trip generation for the proposed project was estimated using standard rates published by the Institute of Transportation Engineers (ITE) in *Trip Generation Manual*, 10th Edition, 2017, and driveway counts at the existing City Public Works Department facility. ITE land use code

110 (General Light Industrial) was used to estimate the project trip generation for the proposed approximately 65,166 square feet of general light industrial uses. ITE land use code 150 (Warehousing) was used to estimate the project trips generation for the proposed approximately 65,166 square feet of warehousing uses. The driveway counts were used to estimate trips that would be generated from the proposed Public Works Corporation Yard. As shown in Table 21, the project would be expected to generate 1,214 trips daily, including 153 during the AM peak hour and 94 during the PM peak hour.

Table 20 Estimated Project Vehicle Trip Generation

	Weekday Peak Hour		
Land Use	**AM**	**PM**	**Total Daily Trips**
ITE 110: General Light Industrial	46	41	324
ITE 150: Warehousing	33	36	150
Public Works Corporation Yard	74	17	740
Total	**153**	**94**	**1,214**

Source: Kimley-Horn 2019 (see Appendix B)

Existing and Existing plus Project Conditions

The Existing Conditions scenario provides an evaluation of current operation based on existing traffic volumes. The Existing Conditions scenario does not include project-generated traffic volumes. Volume data was collected at three of the five study intersections on Thursday, August 1, 2019. A 15 percent seasonal adjustment factor was applied to the collected count volumes to account for increased volumes under school year traffic, because school was not yet in session during the counts. For the two study intersections that were not counted, traffic counts from previous studies conducted in 2017 were provided by the City and volumes were increased by an annual growth rate of 0.75 percent to reflect existing 2019 conditions at these intersections. Average annual daily traffic (AADT) volumes for the study roadway segments were obtained from Caltrans traffic census data published annually on the Caltrans website. The AADT values were converted into weekday peak hour AM and PM peak volumes using factors published by Caltrans, as detailed in the Transportation Impact Analysis (see Appendix B). The Existing plus Project Conditions scenario provides an evaluation of operation upon the addition of project-generated trips.

As shown in Table 21, the Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps intersection operates unacceptably at LOS E and LOS D under the Existing Conditions scenario. This intersection would continue to operate unacceptably at LOS E during AM peak hour and LOS D during PM peak hour under the Existing plus Project Conditions scenario but delay time would increase. All other study intersections operate acceptable under both the Existing Conditions scenario and Existing plus Project Conditions scenario. As shown in Table 22, study roadway segments operate at acceptable LOS A and LOS B under the Existing Conditions scenario and would continue to operate acceptably under the Existing plus Project Conditions scenario.

Table 21 Existing and Existing plus Project Peak Hour Intersection Levels of Service

	Existing Conditions				Existing plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
Study Intersection	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Northbound Highway 101 Ramps & Roy Diaz Street	10.3	B	10.4	B	10.6	B	10.5	B
Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps	**57.8**	**E**	**49.4**	**D**	**63.8**	**E**	**50.4**	**D**
Roy Diaz Street & Airport Boulevard	16.8	B	40.1	D	18.6	B	44.5	D
Skyway Boulevard & Airport Boulevard	12.9	B	23.3	C	13.6	B	25.2	D
East Alisal Street & Skyway Boulevard	4.9	A	9.4	A	4.8	A	9.8	A

Delay is measured in average seconds per vehicle; LOS – Level of Service; results for worst approaches to side street and all-way stop-controlled intersections are indicated in this table. Unacceptable LOS is denoted using bold text.

Table 22 Existing and Existing plus Project Peak Hour Roadway Segment Levels of Service

		Existing Conditions				Existing plus Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
Roadway Segment	Direction	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Highway 101 Segment (Fairview Avenue to Airport Boulevard)	NB	20.9	C	23.2	C	21.0	C	23.3	C
	SB	15.6	B	13.7	B	15.9	B	13.7	B
Highway 101 Segment (Airport Boulevard to Roy Diaz Street)	NB	15.0	B	16.4	B	15.1	B	16.4	B
	SB	11.3	B	9.9	A	11.4	B	9.9	A

Roadway segment LOS is based on density measures in passenger cars per hour per travel lane.

Because LOS would operate unacceptably during the AM and PM peaks hours under both the Existing Conditions and Existing plus Project Conditions scenario at the intersection of Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps, any delay time would increase with the addition of project-generated trips.

The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard Interchange Project (#38) for future improvements to reduce traffic delays and impacts to the intersection of Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps. The Airport Boulevard Interchange Project would improve the operation of the intersection to acceptable LOS under Existing and Existing plus Project Conditions scenarios. Because the Airport Boulevard Interchange Project is included in the City's TFO, payment of traffic impact fees would reduce the project's cumulative impacts at this intersection.

Implementation of the following mitigation measure is required to reduce traffic delays and impacts to the intersection of Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps. Although the intersection would continue to operate at LOS D during the AM peak hour, there would be no significant impact, as the project would not increase vehicle delay.

TRA-1 Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps Improvements

To address the short-term, project-level impacts, encroachment permit improvements shall be implemented at the Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps to improve level of service operations:

- Eliminate the Airport eastbound slip ramp onto the Airport Boulevard overpass and convert the intersection into a typical standard intersection with dual northbound right turn lanes onto the eastbound receiving approach.
- Restripe southbound off ramp approach from the main line to include a shared through and right turn lane, and dual left turn lanes.
- Widen northbound approach for two receiving lanes onto the Airport Boulevard overcrossing.
- Widen the northbound approach to include a left-turn pocket and a shared through and right-turn lane.
- Restripe the southbound approach to include one left-turn pocket and one shared thru-right lane.
- Eliminate split signal phasing.

As shown in in Table 23, implementation of Mitigation Measure TRA-1 would reduce traffic delays at the intersection of Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps in comparison to existing conditions. LOS would improve to acceptable at the intersection during the PM peak hour; however, AM peak hour operations would remain at unacceptable LOS D, although wait times would be reduced, resulting in an improvement over existing conditions. Mitigation Measure TRA-1 would result in a superior LOS at the intersection of Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps compared to existing conditions. Therefore, impacts are less than significant with mitigation incorporated.

Table 23 Existing Plus Project Mitigated Peak Hour Intersection Levels of Service

	Existing Conditions				Existing plus Project Mitigated			
	AM Peak		PM Peak		AM Peak		PM Peak	
Study Intersection	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Northbound Highway 101 Ramps & Roy Diaz Street	10.3	B	10.4	B	10.6	B	10.5	B
Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps	**57.8**	**E**	**49.4**	**D**	**54.6**	**D**	20.9	C
Roy Diaz Street & Airport Boulevard	16.8	B	40.1	D	18.6	B	44.5	D
Skyway Boulevard & Airport Boulevard	12.9	B	23.3	C	13.6	B	25.2	D
East Alisal Street & Skyway Boulevard	4.9	A	9.4	A	4.8	A	9.8	A

Delay is measured in average seconds per vehicle; LOS – Level of Service; results for worst approaches to side street and all-way stop-controlled intersections are indicated in this table. Unacceptable LOS is denoted using bold text.

Background and Background Plus Project Conditions

The Background Conditions scenario reflects conditions with traffic from projects that City staff deems likely to be constructed and generate traffic in a similar timeframe to completion of construction and opening of the proposed project. There is one such project that would affect traffic in the study area and was included in the Baseline Conditions scenario:

- **Salinas Travel Center** – development of a 64-acre area located between Highway 101 and Roy Diaz Street that would include a fueling station for trucks and automobiles, a convenience store, a fast-food restaurant, a truck tire shop, and a hotel with 79 rooms.

The traffic associated with the Salinas Travel Center project was added to existing traffic volumes to obtain the Background Conditions volumes. As shown in Table 24, under the Background Conditions scenario the following study intersections would be expected to operate unacceptably during either or both AM and PM peak periods:

- Northbound Highway 101 Ramps & Roy Diaz Street (PM peak hour)
- Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps (AM and PM peak hours)
- Skyway Boulevard & Airport Boulevard (PM peak hour)

As shown in Table 24, these intersections would continue to operate unacceptably under Background Plus Project Conditions scenario, and the delay at each intersection would increase. All other study intersection would operate acceptably under both the Background Conditions and Background Plus Project Conditions scenarios. Roadway segments would operate acceptably under both the Background Conditions and Background Plus Project Conditions scenarios, as shown in Table 25.

Table 24 Background and Background Plus Project Peak Hour Intersection Levels of Service

	Background Conditions				Background Plus Project			
	AM Peak		PM Peak		AM Peak		PM Peak	
Study Intersection	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Northbound Highway 101 Ramps & Roy Diaz Street	30.8	D	**102.7**	**F**	36.3	E	**110.2**	**F**
Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps	**98.3**	**F**	**69.3**	**E**	**111.2**	**F**	**72.7**	**E**
Roy Diaz Street & Airport Boulevard	20.2	C	47.8	D	22.2	C	50.5	D
Skyway Boulevard & Airport Boulevard	16.2	C	34.6	D	17.8	C	**38.1**	**E**
East Alisal Street & Skyway Boulevard	5.1	A	10.6	B	5.3	A	11.0	B

Delay is measured in average seconds per vehicle; LOS – Level of Service; results for worst approaches to side street and all-way stop-controlled intersections are indicated in this table. Unacceptable LOS is denoted using bold text.

Table 25 Background and Background Plus Project Peak Hour Roadway Segment Levels of Service

		Background Conditions				Background Plus Project			
		AM Peak		PM Peak		AM Peak		PM Peak	
Roadway Segment	Direction	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Highway 101 Segment (Fairview Avenue to Airport Boulevard)	NB	21.6	C	24.0	C	21.7	C	24.1	C
	SB	17.1	B	14.3	B	17.3	B	14.4	B
Highway 101 Segment (Airport Boulevard to Roy Diaz Street)	NB	17.2	B	17.2	B	17.4	B	17.2	B
	SB	11.7	B	11.1	B	11.8	B	11.2	B

Roadway segment LOS is based on density measures in passenger cars per hour per travel lane.

For the three intersections that would operate unacceptably under Background Conditions, any addition of traffic to these intersections as a result of the proposed project would be considered a significant impact. The proposed project would add trips to all three intersections. As such, impacts of the proposed project would be considered potentially significant.

- Potentially significant impacts to Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps would be mitigated with implementation of Mitigation Measure TRA-1, above. Therefore, under Background Conditions, impacts to this intersection would be reduced to a less than significant level.

The Traffic Impact Analysis (TIA) completed for the Salinas Travel Center project (Hexagon Transportation Consultants, Inc. 2017) required signalization of the Northbound Highway 101 Ramps & Roy Diaz Street and Skyway Boulevard & Airport Boulevard intersections. The Salinas Travel Center project would be solely responsible for implementing this mitigation (signalization). With these improvements, the Northbound Highway 101 Ramps & Roy Diaz Street and Skyway

Boulevard & Airport Boulevard intersections would operate acceptably, and no mitigation would be required for the proposed Salinas Airport Development Lease Project.

However, the Salinas Travel Center project includes buildout of a 64-acre Specific Plan area in several phases. In the event that only Phase 1 of the Salinas Travel Center project is constructed prior to implementation of the proposed project, signalization of the Skyway Boulevard & Airport Boulevard intersection would not be completed, and the proposed project would contribute vehicle trips to this deficient intersection, resulting in a potentially significant impact. Therefore, Mitigation Measure TRA-2 is required to ensure that the proposed project pays its fair share contribution toward signalization of this intersection in the event that only Phase 1 of the Salinas Travel Center project is constructed prior to construction of the proposed project.

Additional project-specific mitigation is not required for the Northbound Highway 101 Ramps & Roy Diaz Street intersection because Phase I of the Salinas Travel Center project shall install the signal at the northbound off ramp

TRA-2 Skyway Boulevard & Airport Boulevard Improvements

If development of the Salinas Airport Development Lease Project occurs prior to implementation of Phase 2 of the Salinas Travel Center project, the applicant shall pay a fair share of the cost of a traffic signal or roundabout at the Skyway Boulevard & Airport Boulevard intersection. The fair share fee shall be paid prior to issuance of a building permit.

As shown in Table 26, identified mitigation would result in acceptable LOS at the three impacted intersections (Northbound Highway 101 Ramps & Roy Diaz Street, Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps, and Airport Boulevard & Skyway Boulevard). Identified mitigation includes improvements required for the Salinas Travel Center project as well as implementation of Mitigation Measures TRA-1 and TRA-2, identified herein. The proposed project would have a less than significant impact with mitigation incorporated.

Table 26 Background Plus Project Mitigated Peak Hour Intersection Levels of Service

	Background Conditions				Background Plus Project Mitigated			
	AM Peak		PM Peak		AM Peak		PM Peak	
Study Intersection	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Northbound Highway 101 Ramps & Roy Diaz Street	30.8	D	**102.7**	**F**	18.8	B	25.4	C
Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps	**98.3**	**F**	**69.3**	**E**	**65.6**	**E**	**35.4**	**D**
Roy Diaz Street & Airport Boulevard	20.2	C	47.8	D	20.2	C	47.8	D
Skyway Boulevard & Airport Boulevard	16.2	C	34.6	D	6.0	A	6.2	A
East Alisal Street & Skyway Boulevard	5.1	A	10.6	B	5.3	A	11.0	B

Delay is measured in average seconds per vehicle; LOS – Level of Service; results for worst approaches to side street and all-way stop-controlled intersections are indicated in this table. Unacceptable LOS is denoted using bold text.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Section 15064.3 of the CEQA Guidelines replace congestion-based metrics, such as auto delay and LOS, with vehicle miles traveled (VMT) as the basis for determining significant impacts, unless the CEQA Guidelines provide specific exceptions. Section 15064.3(c) states that a lead agency may elect to apply the provisions of Section 15064.3 at its discretion prior to July 20, 2020, at which time it shall apply statewide. The City has elected not to apply CEQA Guidelines Section 15064.3 for the proposed project, and instead assessed impacts using LOS, above. Therefore, there would be no impact related to conflicts or inconsistencies with CEQA Guidelines Section 15064.3.

NO IMPACT

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)?

The proposed project would include a mix of light industrial and warehousing uses, as well as the Public Works Corporation Yard. Vehicles associated with these uses would include passenger vehicles, delivery trucks, and larger tractor trailers. These vehicles would be compatible with existing roadway uses because the project area is developed with similar light industrial uses requiring the same types of vehicles.

The proposed project would not reconfigure curves on Airport Boulevard or other public roadways, resulting in no new sharp curves. Intersections, including driveways, would be designed and constructed in accordance with Salinas Municipal Code (per Municipal Code Section 30-26) and Caltrans standards when applicable. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in inadequate emergency access?

The project development would include removal of Jeffrey Avenue and Anderson Avenue, located within the project site. Access for proposed development would be reviewed as part of the Building Permitting process and would need to comply with all applicable provisions of the Salinas Municipal Code for the provision of such access. Emergency access for the site would also be reviewed by the Fire Department during the permitting process.

The project site is surrounded by public roadways, including Airport Boulevard, Mercer Way, Mortensen Avenue, and Skyway Boulevard. These roadways would be available for emergency access to the project site. Additionally, the project would be designed in accordance with Salinas Municipal Code, which requires access for fire emergencies. Accordingly, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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 Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	■	☐	☐

California Assembly Bill 52 of 2014 (AB 52), enacted in July 2015, expanded 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) defines 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 California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code 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 Public Resources Code 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. 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.

On August 30, 2019, the City of Salinas, pursuant to Public Resources Code Section 21080.3.1 and AB 52 sent via certified mail notification letters to seven (7) California Native American Tribes that are traditionally and culturally affiliated with the project site requesting to contact the City within 30-days of the letter to schedule a tribal consultation. The letter was sent to the Amah Mutsun Tribal Band of Mission San Juan Batista, Amah Mutsen Tribal Band (two (2) letters), Coastanoan Rumsen Carmel Tribe, Indian Canyon Mutsun Tribe of Coastanoan, Ohlone Coastanoan-Esselen Nation, Torres Martinez Desert Cahuilla Indians, and the Xolon Salinan Tribe.

On September 23, 2019, Louise J. Miranda Ramirez, Tribal Chairwoman of the Ohlone/Costanoan-Esselen Nation requested a tribal consultation pursuant to Public Resources Code Section 21080.3.1. On October 8, 2019, City staff held a tribal consultation on the proposed project at the Salinas Permit Center with the Ohlone/Coastanoan-Esselen Nation. During the consultation, the Ohlone/Coastanoan-Esselen Nation requested that copies of all applicable archaeological reports and surveys concerning the proposed project, including subsurface testing and presence/absence testing should be provided to them for review. In addition, they requested that if any tribal cultural resource is discovered on the project site, that a monitor from the Ohlone/Coastanoan-Esselen Nation should be provided. In response, staff provided copies of all applicable archaeological reports and surveys concerning the proposed project. In addition, the proposed Mitigation Measures require that in the event that any tribal cultural resources should be located on the project site, that a monitor from the Ohlone/Coastanoan-Esselen Nation shall be provided.

Additional requests for tribal consultation on the proposed project were not received on this project.

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 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?

Although no tribal cultural resources are expected to be present on-site, there is the possibility of encountering undisturbed subsurface tribal cultural resources. The proposed excavation of the project site could potentially result in adverse effects on unanticipated tribal cultural resources. However, impacts from the unanticipated discovery of tribal cultural resources during construction would be less than significant with Mitigation Measure TCR-1.

Mitigation Measure

The following mitigation measure would reduce impacts regarding disrupting tribal cultural resources to a less than significant level.

TCR-1 Unanticipated Discovery of Tribal Cultural Resources

In the event that cultural resources of Native American origin are identified during construction, all earth disturbing work within the vicinity of the find must be temporarily suspended or redirected until an archaeologist has evaluated the nature and significance of the find and an appropriate Native American representative, based on the nature of the find, is consulted. If the City determines that the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with state guidelines and in consultation with Native American groups prior to continuation of any earth disturbing work within the vicinity of the find. The plan shall include avoidance of the resource or, if avoidance of the resource is infeasible, the plan shall outline the appropriate treatment of the resource in coordination with the archeologist and the appropriate Native American tribal representative and/or a representative from the Ohlone/Coastanoan-Esselen Nation, as appropriate.

Treatment of the resource could include but not limited to the examples provided below.

(1) Avoidance and preservation of the resources in place, including, but not limited to, planning and construction to avoid the resources and protect the cultural and natural context, or planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.

(2) 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:

   (A) Protecting the cultural character and integrity of the resource.

   (B) Protecting the traditional use of the resource.

   (C) Protecting the confidentiality of the resource.

(3) 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.

(4) Protecting the resource.

Earth-disturbing work within the vicinity of the find shall not be restarted until all requirements of the mitigation plan have been adequately addressed pursuant to CEQA.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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?

Water

Water supply in the City of Salinas is primarily provided by California Water Service (Cal Water). Cal Water provides water service to approximately 70 percent of the city, including the project site (Cal Water 2016). Cal Water currently obtains its water supply from groundwater. Between 2010 and 2015, Cal Water delivered an average of 16 million gallons of water per day to more than 27,000 service connections (Cal Water 2016). The project site contains existing water lines throughout the site, primarily following internal roadways, ranging from 6-inch to 12-inch diameter pipes, as shown in Figure 5 (Salinas District 2019).

A significant impact to water supply, treatment, and distribution systems would occur if a project is determined to be inconsistent with the adopted Water Master Plan and Urban Water Management Plan (City of Salinas 2002).

Estimated water demand for the proposed project is shown in Table 27. Based on CalEEMod water usage rates for the proposed project, the project would generate water demand of approximately 100 AFY.

Table 27 Estimated Water Demand

Land Use	Size	Total (gallons/year)[1]	Total (AFY)
Light Industry	10,800 sf	2,497,500	7.66
Other Asphalt Surfaces	5.52 ac	0	0
Unrefrigerated Warehouse	130,332 sf	30,138,800	92.5
Total		**32,636,300**	**100.2**

Notes: sf = square feet; AFY = acre-feet/year (one AF = 325,850 gallons); ac = acre
[1] Source: CalEEMod modeling results (see Appendix A)

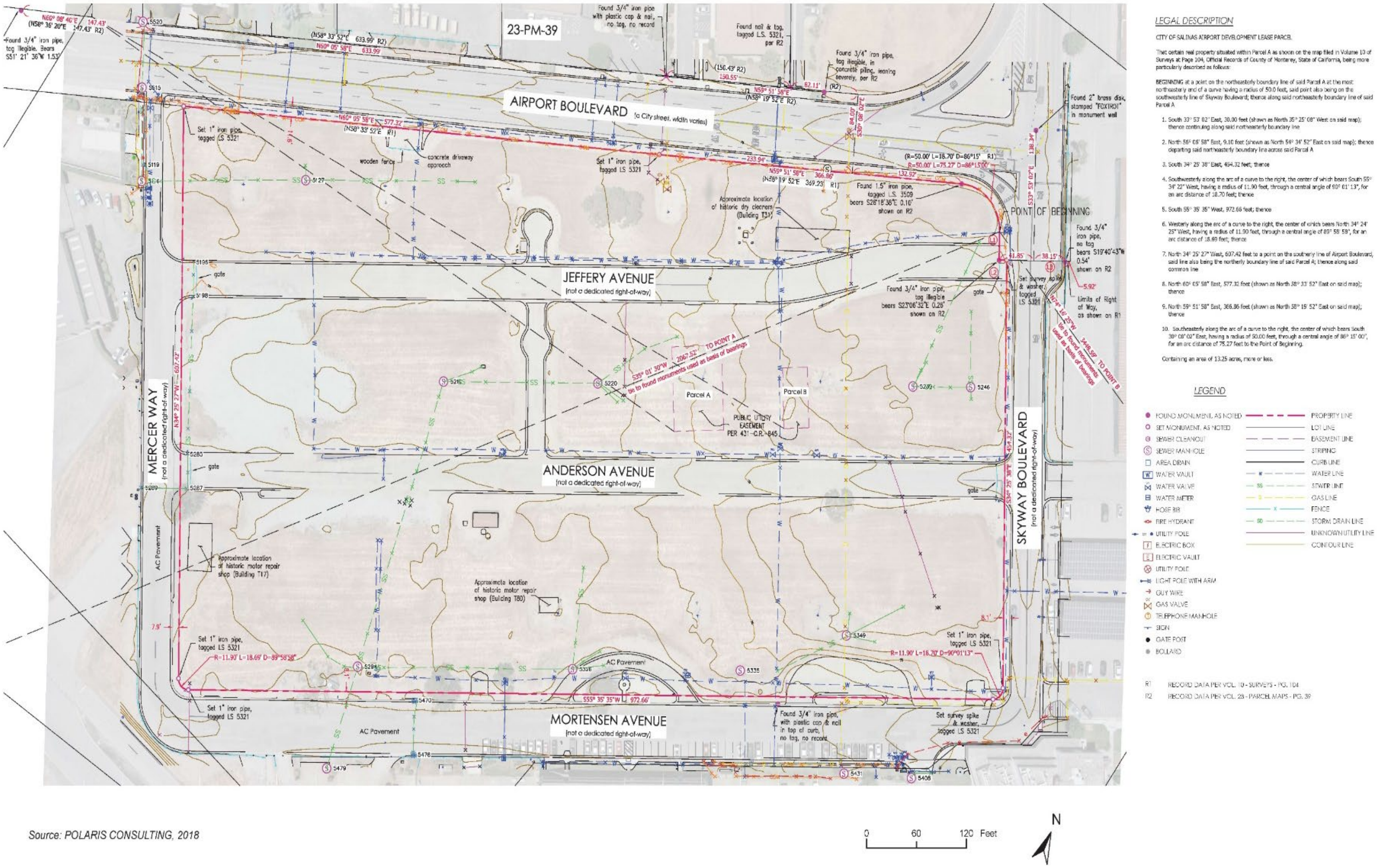
Table 28 shows Cal Water's service area reliability assessment for a potential multiple-dry year period from 2020 to 2040, as contained in Cal Water's (2016) 2015 Urban Water Management Plan (UWMP).

Table 28 Multiple Dry Years Water Supply and Demand

	2020	2025	2030	2035	2040
Total Demand (AFY)	19,847	20,639	21,634	22,731	23,959
Total Supply (AFY)	19,847	20,639	21,634	22,731	23,959
Difference	0	0	0	0	0

Source: Cal Water 2016, Table 7-4

Figure 5 Existing Utilities



Source: POLARIS CONSULTING, 2018

Based on available supply projections for Cal Water, available supply is expected to be equal to the demand for the multiple-dry year scenarios through 2040. As shown above, the demand in water supply in Cal Water's service area is anticipated to increase 4,112 AFY from 19,847 AFY in 2020 to 23,959 AFY in 2040. The UWMP utilized the California Department of Finance and Caltrans-Monterey County population forecast to project water demand within the service area. The UWMP (Cal Water 2016) utilized population projections consistent with the City's General Plan to determine future water demand. As described in Section 14, *Population and Housing*, the project would not generate unplanned population growth; therefore, the project would not substantially increase demand for groundwater beyond expected demand forecasts. In addition, the project would comply with California's Green Building Standards Code (as required by the Salinas Code of Ordinances, Chapter 9, Article I-K), which includes installing low-flow plumbing fixtures and fittings in new properties where feasible, which would further reduce water usage. Demand for water created by the project would not require new water supply entitlements or require the relocation or construction of water supply facilities beyond those already considered in the 2015 UWMP. Adequate water supplies would be available to serve the project for the reasonably foreseeable future, and the project's water system would connect to existing water supply infrastructure located within and adjacent to the project site. Therefore, the project would not require or result in the relocation or construction of new or expanded water, facilities, the construction or relocation of which could cause significant environmental effects. Water supply and infrastructure impacts would be less than significant.

Wastewater Treatment

The proposed project would be served by connection to the municipal sewer system, which is operated and maintained by the City of Salinas. Wastewater would be treated at the Monterey One Water (M1W; formerly Monterey Regional Water Pollution Control Agency) Regional Treatment Plant located approximately nine miles northwest of the project site in Marina. The Treatment Plant has a total treatment capacity of approximately 29.6 million gallons per day (mgd) and currently treats an average of 18.5 mgd with a remaining capacity of 11.1 mgd (M1W 2019). The project site contains existing wastewater lines throughout the site, ranging from 4-inch to 8-inch diameter pipes, as shown in Figure 5 (Polaris Consulting 2018).

A significant impact to wastewater treatment and distribution systems would occur if a project is determined to be inconsistent with the adopted Sewer and Drainage Master Plan (City of Salinas 2002).

The project's estimated wastewater generation was calculated using an industry standard assumption that the project's water use is 120 percent of the project's wastewater generation (City of Malibu 2008). Based on this assumption, the project would generate approximately 39,163,560 gallons of wastewater per year, or approximately 120.2 AFY. The project's anticipated wastewater generation (approximately 0.11 mgd) would be less than 1.0 percent of the Treatment Plant's remaining capacity.

Therefore, the project would neither require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects; nor result in a determination by the wastewater treatment provider which serves the project that it has inadequate capacity to serve the project's demand in addition to the provider's existing commitments. Impacts related to wastewater treatment facilites and sewer infrastructure would be less than significant.

Stormwater Drainage

The project site contains existing stormwater conveyance facilities along Mercer Way within the project site, as shown in Figure 5 (Polaris Consulting 2018). As discussed in Section 10, *Hydrology and Water Quality*, the proposed project would be required to comply with the City of Salinas MS4 Permit (Order No. R3-2012-0005, NPDES Permit No. CA0049981), which requires the volume of runoff from an 85th percentile storm event be retained on site through either retention basins or bioretention facilities. The project would be required to include such facilities in the final design plans for the site. Therefore, the project would not increase the rate or amount of surface runoff so as to exceed the capacity of existing or planned drainage systems or create additional sources of polluted runoff. The proposed project would result in new impervious surfaces; however, the required retention basins and/or bioretention facilities would capture stormwater runoff from these new surfaces. Although construction activities would involve ground disturbance at the project site, this disturbance would be temporary. Therefore, impacts related to stormwater drainage would be less than significant.

Electricity, Natural Gas, and Telecommunications

As described in Section 6, *Energy*, the project would require approximately 0.53 GWh per year of electricity and approximately 0.006 MMThm per year of natural gas. Electricity and natural gas would be provided to the project site by PG&E. Telecommunications services could be provided by AT&T, Xfinity, Viasat, or other providers. Telecommunications are generally available in the project area, and facility upgrades would not likely be necessary.

The project would involve relocating the existing aboveground on-site PG&E transmission lines, which are located throughout the site, two of which run north-south about mid-site and two additional lines which run east-west from Skyway Boulevard to Mercer Road west of the project site. Relocation of these lines would be conducted in compliance with Rule 20 and PG&E's undergrounding program (PG&E 2019a), and would not require off-site alterations to PG&E transmission lines. Additionally, relocation may result in service disruptions; however, this would be temporary, would not substantially interfere with the provision of electric service to the area, and affected customers would be notified by PG&E (PG&E 2019b). The project site contains existing natural gas lines within the project site parallel to Skyway Boulevard, and along Mortensen Avenue and Airport Boulevard adjacent to the site, as shown in Figure 5 (Polaris Consulting 2018). The project site contains existing telecommunication lines along the project site boundaries with Airport Boulevard and Skyway Boulevard, as shown in Figure 5 (Polaris Consulting 2018).

PG&E had an excess annual capacity of approximately 6,061 GWh in 2014, which is sufficient to accommodate the electricity requirements of the project (PG&E 2019c). PG&E has an estimated natural gas throughput of 10,195 MMThm in 2014 (PG&E 2019c). The increase in natural gas demand generated by the project would represent less than 0.0001 percent increase in natural gas demand; therefore, existing natural gas supplies would be adequate to accommodate the natural gas requirements of the project. Improvements to existing facilities or the provision of new electricity and natural gas facilities would not be required. Therefore, the project would not require or result in the construction of new or expanded electric power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects. Impacts would be less than significant.

LESS THAN 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?*

e. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

The City of Salinas General Plan provides a landfill service standard of 10 years of capacity for landfills serving a proposed project (City of Salinas 2002). Project site waste would be transferred by the Salinas Valley Solid Waste Authority to the Johnson Canyon Sanitary Landfill via the Sun Street Transfer Station and/or the Jolon Road Transfer Station. The Johnson Canyon Sanitary Landfill can accept up to 1,574 tons per day, and has a remaining capacity of 6,923,297 cubic yards, with an anticipated closure date of 2055 (CalRecycle 2019).

Construction of the project would generate solid waste, including construction debris; however, this is not expected to generate a substantial amount of waste that would exceed the landfill capacity or noticeably affect the anticipated closure date of the landfill. Operation of the project would generate approximately 135.9 tons of solid waste per year (0.37 tons per day) from the proposed light industrial and warehouse uses.[1] This represents less than 0.03 percent of the landfill's allowed daily tonnage. Therefore, the existing landfill has adequate remaining capacity. Further, the project would be required to recycle materials per Assembly Bill (AB) 341 and Salinas Valley Solid Waste Authority requirements, which would reduce the amount of solid waste generated by the project, thus further reducing project demand on the landfill's remaining capacity. Therefore, project impacts related to solid waste would be less than significant.

LESS THAN SIGNIFICANT IMPACT

1 This estimate is based on the CalEEMod assumptions and output files (Appendix A).

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?	☐	☐	☐	■

While nearly all of California is subject to some degree of wildfire hazard, there are specific features that make certain areas more hazardous. CAL FIRE is required by law to map areas of significant fire hazards based on fuels, terrain, weather and other relevant factors (Public Resources Code [PRC] 4201-4204, California Government Code 51175-89). The primary factors that increase an area's susceptibility to fire hazards include topography and slope, vegetation type and vegetation condition, and weather and atmospheric conditions. CAL FIRE maps fire hazards based on zones, referred to as Fire Hazard Severity Zones. Each of the zones influence how people construct buildings and protect property to reduce risk associated with wildland fires. Under state regulations, areas within Very High Fire Hazard Severity Zones (VHFHSZ) must comply with specific building and vegetation management requirements intended to reduce property damage and loss of life within these areas.

In California, responsibility for wildfire prevention and suppression is shared by federal, state and local agencies. Federal agencies have legal responsibility to prevent and suppress wildfires in Federal Responsibility Areas (FRAs). CAL FIRE prevents and suppresses wildfires in State Responsibility Area (SRA) lands, which are non-federal lands in unincorporated areas with watershed value, are of statewide interest, defined by land ownership, population density, and land use. Wildfire prevention and suppression in Local Responsibility Areas (LRA) are typically provided by city fire departments, fire protection districts, counties, and by CAL FIRE under contract to local government. These lands include incorporated cities, cultivated agriculture lands, and portions of the desert. (CAL FIRE 2019).

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?*

The project site is in an LRA and is a non-VHFHSZ (CAL FIRE 2008). It is also not classified as a moderate or high FHSZ. All areas immediately surrounding the project site are non-VHFHSZs. As discussed in Section 15, *Public Services,* the SFD provides emergency response and public safety services for the project site. The project would maintain emergency access and would not interfere with an emergency response plan or evacuation route. No impact would occur.

NO 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?*

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?*

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?*

The project site is in an LRA and is a non-VHFHSZ. There would be no impact.

NO IMPACT

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?

With incorporation of the mitigation measures in Section 4, *Biological Resources*, the project would not have the potential to significantly 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, reduce the number or restrict the range of a rare or endangered plant or animal. Section 5, *Cultural Resources*, and Section 18, *Tribal Cultural Resources*, discussed how the project would not eliminate important examples of the major periods of California history or prehistory. This is a less than significant impact with Mitigation Measures BIO-1, BIO-2, CR-1 and TCR-1 included.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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)?

The proposed project was determined to have no impact in comparison to existing conditions for Agriculture and Forestry Resources, Mineral Resources, Recreation, and Wildfire issue areas. Therefore, as there would be no direct or indirect impacts, the proposed project would not contribute to cumulative impacts to these issue areas.

For all other issue areas, the proposed project would have either direct or indirect impacts that have been determined to be less than significant, with or without mitigation incorporated. The proposed project would involve the construction of a Public Works Corporation Yard and potential future development of light industrial and/or warehouse uses at a 13.25-acre project site adjacent to the Salinas Municipal Airport. The project would not adversely affect biological, cultural, or other physical resources outside of the project site. Other impacts, such as noise and GHG emissions, would be minor and would not be cumulatively considerable. Thus, the effects of the project would not combine with impacts from other projects in the vicinity to result in a significant cumulative impact.

According to the TIA prepared for this project, all intersections are anticipated to operate at an acceptable LOS under Cumulative Plus Project conditions except for the intersection of Airport Boulevard/Terven Avenue & Southbound Highway 101 Ramps, which without mitigation is anticipated to operate at LOS F during the AM peak hour and LOS D during the PM peak hour. Implementation of Mitigation Measure TRA-1 would result in acceptable LOS C for both the AM and PM peak hours at Terven Avenue/Airport Boulevard & Southbound Highway 101 Ramps. Therefore, the proposed project would have a less-than-significant impact with Mitigation Measure TRA-1 incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly, as discussed in Section 3, *Air Quality*, Section 9, *Hazardous Materials*, and Section 13, *Noise*. The project would not conflict with the MBARD AQMP and would not expose sensitive receptors to substantial pollutant concentrations.

The project would not create a significant hazard to the public or environment with implementation of Mitigation Measure HAZ-1.

The project would not result in a permanent increase in ambient noise levels in the vicinity of the project. Construction noise would be temporary and impacts to the surrounding vicinity would be less than significant.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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Appendix A

CalEEMod Greenhouse Gas Emissions Calculation Outputs

Salinas Airport Lease Project

Monterey County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.80	1000sqft	0.25	10,800.00	0
Unrefrigerated Warehouse-No Rail	130.33	1000sqft	2.99	130,332.00	0
Other Asphalt Surfaces	5.52	Acre	5.52	240,451.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	417.62	**CH4 Intensity (lb/MWhr)**	0.019	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors were reduced to incorporate current remewable energy portfolios

Land Use - Based on project description: a majority of the public works corporation yard would operate for vehicle storage and parking. SF of warehouse use per TIA.

Construction Phase - Project site has minimal grading as it has been previously graded and is flat

Off-road Equipment -

Off-road Equipment - Project site would not support all the equipment

Off-road Equipment - Project site is flat- not much grading required.

Off-road Equipment - Project site would not support all the equipment.

Off-road Equipment - Project site is small and previously graded

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Per TIA; only new use trips included for the warehouse; public yards trips are relocated trips in the region, and therefore not included as new trips for this analysis

Consumer Products -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Area Mitigation - N/A

Energy Mitigation - 2019 Title 24 Standards

Water Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	5.00
tblLandUse	LandUseSquareFeet	130,330.00	130,332.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.019
tblProjectCharacteristics	CO2IntensityFactor	641.35	417.62
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	1.68	3.64
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.68	3.64
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	1.68	3.64

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0954	0.8696	0.7327	1.6900e-003	0.0924	0.0376	0.1300	0.0374	0.0352	0.0727	0.0000	151.9403	151.9403	0.0221	0.0000	152.4936
2021	1.2998	2.3610	2.2705	5.3700e-003	0.1521	0.0950	0.2471	0.0413	0.0893	0.1306	0.0000	481.7775	481.7775	0.0667	0.0000	483.4448
Maximum	**1.2998**	**2.3610**	**2.2705**	**5.3700e-003**	**0.1521**	**0.0950**	**0.2471**	**0.0413**	**0.0893**	**0.1306**	**0.0000**	**481.7775**	**481.7775**	**0.0667**	**0.0000**	**483.4448**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.0954	0.8695	0.7327	1.6900e-003	0.0924	0.0376	0.1300	0.0374	0.0352	0.0727	0.0000	151.9402	151.9402	0.0221	0.0000	152.4935
2021	1.2998	2.3610	2.2705	5.3700e-003	0.1521	0.0950	0.2471	0.0413	0.0893	0.1306	0.0000	481.7773	481.7773	0.0667	0.0000	483.4446
Maximum	**1.2998**	**2.3610**	**2.2705**	**5.3700e-003**	**0.1521**	**0.0950**	**0.2471**	**0.0413**	**0.0893**	**0.1306**	**0.0000**	**481.7773**	**481.7773**	**0.0667**	**0.0000**	**483.4446**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-7-2020	12-6-2020	0.6865	0.6865
2	12-7-2020	3-6-2021	0.9271	0.9271
3	3-7-2021	6-6-2021	0.9155	0.9155
4	6-7-2021	9-6-2021	0.8994	0.8994
5	9-7-2021	9-30-2021	0.1286	0.1286
		Highest	0.9271	0.9271

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6700	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Energy	3.9700e-003	0.0361	0.0304	2.2000e-004		2.7500e-003	2.7500e-003		2.7500e-003	2.7500e-003	0.0000	143.3871	143.3871	5.4900e-003	1.7200e-003	144.0362
Mobile	0.1184	0.5455	1.3476	5.2800e-003	0.5186	3.6100e-003	0.5222	0.1392	3.3500e-003	0.1425	0.0000	486.6551	486.6551	0.0192	0.0000	487.1361
Waste						0.0000	0.0000		0.0000	0.0000	27.5865	0.0000	27.5865	1.6303	0.0000	68.3443
Water						0.0000	0.0000		0.0000	0.0000	10.3540	33.4523	43.8063	1.0650	0.0254	78.0091
Total	**0.7924**	**0.5816**	**1.3798**	**5.5000e-003**	**0.5186**	**6.3700e-003**	**0.5250**	**0.1392**	**6.1100e-003**	**0.1453**	**37.9405**	**663.4981**	**701.4386**	**2.7200**	**0.0272**	**777.5296**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.6700	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Energy	2.9100e-003	0.0265	0.0223	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	129.6067	129.6067	5.1400e-003	1.4900e-003	130.1803
Mobile	0.1184	0.5455	1.3476	5.2800e-003	0.5186	3.6100e-003	0.5222	0.1392	3.3500e-003	0.1425	0.0000	486.6551	486.6551	0.0192	0.0000	487.1361
Waste						0.0000	0.0000		0.0000	0.0000	27.5865	0.0000	27.5865	1.6303	0.0000	68.3443
Water						0.0000	0.0000		0.0000	0.0000	10.3540	33.4523	43.8063	1.0650	0.0254	78.0091
Total	**0.7914**	**0.5720**	**1.3717**	**5.4400e-003**	**0.5186**	**5.6300e-003**	**0.5242**	**0.1392**	**5.3700e-003**	**0.1445**	**37.9405**	**649.7177**	**687.6582**	**2.7197**	**0.0269**	**763.6737**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.13**	**1.66**	**0.59**	**1.09**	**0.00**	**11.62**	**0.14**	**0.00**	**12.11**	**0.51**	**0.00**	**2.08**	**1.96**	**0.01**	**0.85**	**1.78**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/7/2020	9/18/2020	5	10	
2	Grading	Grading	9/19/2020	9/25/2020	5	5	
3	Building Construction	Building Construction	10/17/2020	9/3/2021	5	230	
4	Paving	Paving	9/4/2021	10/1/2021	5	20	
5	Architectural Coating	Architectural Coating	10/2/2021	10/29/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2.5

Acres of Paving: 5.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 211,698; Non-Residential Outdoor: 70,566; Striped Parking Area: 14,427 (Architectural Coating – sqft)

<u>OffRoad Equipment</u>

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	160.00	63.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0301	0.0000	0.0301	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4400e-003	0.0672	0.0321	6.0000e-005		3.4400e-003	3.4400e-003		3.1700e-003	3.1700e-003	0.0000	5.1170	5.1170	1.6500e-003	0.0000	5.1584
Total	**6.4400e-003**	**0.0672**	**0.0321**	**6.0000e-005**	**0.0301**	**3.4400e-003**	**0.0336**	**0.0166**	**3.1700e-003**	**0.0197**	**0.0000**	**5.1170**	**5.1170**	**1.6500e-003**	**0.0000**	**5.1584**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.0000e-004	9.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1892
Total	**1.1000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1890**	**0.1890**	**1.0000e-005**	**0.0000**	**0.1892**

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0301	0.0000	0.0301	0.0166	0.0000	0.0166	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.4400e-003	0.0672	0.0321	6.0000e-005		3.4400e-003	3.4400e-003		3.1700e-003	3.1700e-003	0.0000	5.1170	5.1170	1.6500e-003	0.0000	5.1584
Total	**6.4400e-003**	**0.0672**	**0.0321**	**6.0000e-005**	**0.0301**	**3.4400e-003**	**0.0336**	**0.0166**	**3.1700e-003**	**0.0197**	**0.0000**	**5.1170**	**5.1170**	**1.6500e-003**	**0.0000**	**5.1584**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.0000e-004	9.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1892
Total	**1.1000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1890**	**0.1890**	**1.0000e-005**	**0.0000**	**0.1892**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0164	0.0000	0.0164	8.4200e-003	0.0000	8.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0554	0.0287	6.0000e-005		2.5200e-003	2.5200e-003		2.3200e-003	2.3200e-003	0.0000	5.1504	5.1504	1.6700e-003	0.0000	5.1921
Total	**5.0200e-003**	**0.0554**	**0.0287**	**6.0000e-005**	**0.0164**	**2.5200e-003**	**0.0189**	**8.4200e-003**	**2.3200e-003**	**0.0107**	**0.0000**	**5.1504**	**5.1504**	**1.6700e-003**	**0.0000**	**5.1921**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.0000e-004	9.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1892
Total	**1.1000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1890**	**0.1890**	**1.0000e-005**	**0.0000**	**0.1892**

3.3 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0164	0.0000	0.0164	8.4200e-003	0.0000	8.4200e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.0200e-003	0.0554	0.0287	6.0000e-005		2.5200e-003	2.5200e-003		2.3200e-003	2.3200e-003	0.0000	5.1504	5.1504	1.6700e-003	0.0000	5.1921
Total	**5.0200e-003**	**0.0554**	**0.0287**	**6.0000e-005**	**0.0164**	**2.5200e-003**	**0.0189**	**8.4200e-003**	**2.3200e-003**	**0.0107**	**0.0000**	**5.1504**	**5.1504**	**1.6700e-003**	**0.0000**	**5.1921**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.1000e-004	1.0000e-004	9.1000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1890	0.1890	1.0000e-005	0.0000	0.1892
Total	**1.1000e-004**	**1.0000e-004**	**9.1000e-004**	**0.0000**	**2.0000e-004**	**0.0000**	**2.0000e-004**	**5.0000e-005**	**0.0000**	**5.0000e-005**	**0.0000**	**0.1890**	**0.1890**	**1.0000e-005**	**0.0000**	**0.1892**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0572	0.5180	0.4549	7.3000e-004		0.0302	0.0302		0.0284	0.0284	0.0000	62.5347	62.5347	0.0153	0.0000	62.9161
Total	**0.0572**	**0.5180**	**0.4549**	**7.3000e-004**		**0.0302**	**0.0302**		**0.0284**	**0.0284**	**0.0000**	**62.5347**	**62.5347**	**0.0153**	**0.0000**	**62.9161**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5900e-003	0.2111	0.0578	4.8000e-004	0.0112	1.1500e-003	0.0124	3.2400e-003	1.1000e-003	4.3400e-003	0.0000	46.1080	46.1080	2.1300e-003	0.0000	46.1613
Worker	0.0189	0.0176	0.1573	3.6000e-004	0.0343	3.1000e-004	0.0346	9.1300e-003	2.8000e-004	9.4100e-003	0.0000	32.6523	32.6523	1.4100e-003	0.0000	32.6874
Total	**0.0265**	**0.2287**	**0.2151**	**8.4000e-004**	**0.0455**	**1.4600e-003**	**0.0470**	**0.0124**	**1.3800e-003**	**0.0138**	**0.0000**	**78.7603**	**78.7603**	**3.5400e-003**	**0.0000**	**78.8487**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0572	0.5180	0.4549	7.3000e-004		0.0302	0.0302		0.0284	0.0284	0.0000	62.5346	62.5346	0.0153	0.0000	62.9160
Total	**0.0572**	**0.5180**	**0.4549**	**7.3000e-004**		**0.0302**	**0.0302**		**0.0284**	**0.0284**	**0.0000**	**62.5346**	**62.5346**	**0.0153**	**0.0000**	**62.9160**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.5900e-003	0.2111	0.0578	4.8000e-004	0.0112	1.1500e-003	0.0124	3.2400e-003	1.1000e-003	4.3400e-003	0.0000	46.1080	46.1080	2.1300e-003	0.0000	46.1613
Worker	0.0189	0.0176	0.1573	3.6000e-004	0.0343	3.1000e-004	0.0346	9.1300e-003	2.8000e-004	9.4100e-003	0.0000	32.6523	32.6523	1.4100e-003	0.0000	32.6874
Total	**0.0265**	**0.2287**	**0.2151**	**8.4000e-004**	**0.0455**	**1.4600e-003**	**0.0470**	**0.0124**	**1.3800e-003**	**0.0138**	**0.0000**	**78.7603**	**78.7603**	**3.5400e-003**	**0.0000**	**78.8487**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1673	1.5340	1.4586	2.3700e-003		0.0844	0.0844		0.0793	0.0793	0.0000	203.8408	203.8408	0.0492	0.0000	205.0703
Total	**0.1673**	**1.5340**	**1.4586**	**2.3700e-003**		**0.0844**	**0.0844**		**0.0793**	**0.0793**	**0.0000**	**203.8408**	**203.8408**	**0.0492**	**0.0000**	**205.0703**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0205	0.6297	0.1656	1.5600e-003	0.0365	1.9300e-003	0.0384	0.0106	1.8500e-003	0.0124	0.0000	149.0704	149.0704	6.6500e-003	0.0000	149.2365
Worker	0.0568	0.0511	0.4660	1.1400e-003	0.1119	9.7000e-004	0.1128	0.0298	8.9000e-004	0.0306	0.0000	102.8562	102.8562	4.0800e-003	0.0000	102.9582
Total	**0.0773**	**0.6808**	**0.6316**	**2.7000e-003**	**0.1484**	**2.9000e-003**	**0.1513**	**0.0403**	**2.7400e-003**	**0.0430**	**0.0000**	**251.9266**	**251.9266**	**0.0107**	**0.0000**	**252.1948**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1673	1.5340	1.4586	2.3700e-003		0.0844	0.0844		0.0793	0.0793	0.0000	203.8406	203.8406	0.0492	0.0000	205.0700
Total	**0.1673**	**1.5340**	**1.4586**	**2.3700e-003**		**0.0844**	**0.0844**		**0.0793**	**0.0793**	**0.0000**	**203.8406**	**203.8406**	**0.0492**	**0.0000**	**205.0700**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0205	0.6297	0.1656	1.5600e-003	0.0365	1.9300e-003	0.0384	0.0106	1.8500e-003	0.0124	0.0000	149.0704	149.0704	6.6500e-003	0.0000	149.2365
Worker	0.0568	0.0511	0.4660	1.1400e-003	0.1119	9.7000e-004	0.1128	0.0298	8.9000e-004	0.0306	0.0000	102.8562	102.8562	4.0800e-003	0.0000	102.9582
Total	**0.0773**	**0.6808**	**0.6316**	**2.7000e-003**	**0.1484**	**2.9000e-003**	**0.1513**	**0.0403**	**2.7400e-003**	**0.0430**	**0.0000**	**251.9266**	**251.9266**	**0.0107**	**0.0000**	**252.1948**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	7.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0198**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	5.4000e-004	4.9600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0958	1.0958	4.0000e-005	0.0000	1.0969
Total	**6.1000e-004**	**5.4000e-004**	**4.9600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0958**	**1.0958**	**4.0000e-005**	**0.0000**	**1.0969**

3.5 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0126	0.1292	0.1465	2.3000e-004		6.7800e-003	6.7800e-003		6.2400e-003	6.2400e-003	0.0000	20.0235	20.0235	6.4800e-003	0.0000	20.1854
Paving	7.2300e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0198**	**0.1292**	**0.1465**	**2.3000e-004**		**6.7800e-003**	**6.7800e-003**		**6.2400e-003**	**6.2400e-003**	**0.0000**	**20.0235**	**20.0235**	**6.4800e-003**	**0.0000**	**20.1854**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	6.1000e-004	5.4000e-004	4.9600e-003	1.0000e-005	1.1900e-003	1.0000e-005	1.2000e-003	3.2000e-004	1.0000e-005	3.3000e-004	0.0000	1.0958	1.0958	4.0000e-005	0.0000	1.0969
Total	**6.1000e-004**	**5.4000e-004**	**4.9600e-003**	**1.0000e-005**	**1.1900e-003**	**1.0000e-005**	**1.2000e-003**	**3.2000e-004**	**1.0000e-005**	**3.3000e-004**	**0.0000**	**1.0958**	**1.0958**	**4.0000e-005**	**0.0000**	**1.0969**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**1.0336**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	1.1600e-003	0.0106	3.0000e-005	2.5400e-003	2.0000e-005	2.5600e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.3376	2.3376	9.0000e-005	0.0000	2.3400
Total	**1.2900e-003**	**1.1600e-003**	**0.0106**	**3.0000e-005**	**2.5400e-003**	**2.0000e-005**	**2.5600e-003**	**6.8000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.3376**	**2.3376**	**9.0000e-005**	**0.0000**	**2.3400**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	1.0314					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.1900e-003	0.0153	0.0182	3.0000e-005		9.4000e-004	9.4000e-004		9.4000e-004	9.4000e-004	0.0000	2.5533	2.5533	1.8000e-004	0.0000	2.5576
Total	**1.0336**	**0.0153**	**0.0182**	**3.0000e-005**		**9.4000e-004**	**9.4000e-004**		**9.4000e-004**	**9.4000e-004**	**0.0000**	**2.5533**	**2.5533**	**1.8000e-004**	**0.0000**	**2.5576**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2900e-003	1.1600e-003	0.0106	3.0000e-005	2.5400e-003	2.0000e-005	2.5600e-003	6.8000e-004	2.0000e-005	7.0000e-004	0.0000	2.3376	2.3376	9.0000e-005	0.0000	2.3400
Total	**1.2900e-003**	**1.1600e-003**	**0.0106**	**3.0000e-005**	**2.5400e-003**	**2.0000e-005**	**2.5600e-003**	**6.8000e-004**	**2.0000e-005**	**7.0000e-004**	**0.0000**	**2.3376**	**2.3376**	**9.0000e-005**	**0.0000**	**2.3400**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1184	0.5455	1.3476	5.2800e-003	0.5186	3.6100e-003	0.5222	0.1392	3.3500e-003	0.1425	0.0000	486.6551	486.6551	0.0192	0.0000	487.1361
Unmitigated	0.1184	0.5455	1.3476	5.2800e-003	0.5186	3.6100e-003	0.5222	0.1392	3.3500e-003	0.1425	0.0000	486.6551	486.6551	0.0192	0.0000	487.1361

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	474.40	474.40	474.40	1,385,020	1,385,020
Total	474.40	474.40	474.40	1,385,020	1,385,020

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Other Asphalt Surfaces	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Unrefrigerated Warehouse-No Rail	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	100.7712	100.7712	4.5800e-003	9.7000e-004	101.1735
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	104.0497	104.0497	4.7300e-003	1.0000e-003	104.4650
NaturalGas Mitigated	2.9100e-003	0.0265	0.0223	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	28.8355	28.8355	5.5000e-004	5.3000e-004	29.0069
NaturalGas Unmitigated	3.9700e-003	0.0361	0.0304	2.2000e-004		2.7500e-003	2.7500e-003		2.7500e-003	2.7500e-003	0.0000	39.3375	39.3375	7.5000e-004	7.2000e-004	39.5712

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	284904	1.5400e-003	0.0140	0.0117	8.0000e-005		1.0600e-003	1.0600e-003		1.0600e-003	1.0600e-003	0.0000	15.2036	15.2036	2.9000e-004	2.8000e-004	15.2939
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	452252	2.4400e-003	0.0222	0.0186	1.3000e-004		1.6800e-003	1.6800e-003		1.6800e-003	1.6800e-003	0.0000	24.1339	24.1339	4.6000e-004	4.4000e-004	24.2773
Total		**3.9800e-003**	**0.0361**	**0.0304**	**2.1000e-004**		**2.7400e-003**	**2.7400e-003**		**2.7400e-003**	**2.7400e-003**	**0.0000**	**39.3375**	**39.3375**	**7.5000e-004**	**7.2000e-004**	**39.5712**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	221044	1.1900e-003	0.0108	9.1000e-003	7.0000e-005		8.2000e-004	8.2000e-004		8.2000e-004	8.2000e-004	0.0000	11.7957	11.7957	2.3000e-004	2.2000e-004	11.8658
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	319313	1.7200e-003	0.0157	0.0132	9.0000e-005		1.1900e-003	1.1900e-003		1.1900e-003	1.1900e-003	0.0000	17.0398	17.0398	3.3000e-004	3.1000e-004	17.1410
Total		**2.9100e-003**	**0.0265**	**0.0223**	**1.6000e-004**		**2.0100e-003**	**2.0100e-003**		**2.0100e-003**	**2.0100e-003**	**0.0000**	**28.8355**	**28.8355**	**5.6000e-004**	**5.3000e-004**	**29.0069**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	89208	16.8986	7.7000e-004	1.6000e-004	16.9661
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	460072	87.1511	3.9700e-003	8.3000e-004	87.4990
Total		**104.0497**	**4.7400e-003**	**9.9000e-004**	**104.4650**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	84412.8	15.9903	7.3000e-004	1.5000e-004	16.0541
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	447560	84.7810	3.8600e-003	8.1000e-004	85.1194
Total		**100.7712**	**4.5900e-003**	**9.6000e-004**	**101.1735**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.6700	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Unmitigated	0.6700	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1031					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5667					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Total	**0.6700**	**2.0000e-005**	**1.8600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.6400e-003**	**3.6400e-003**	**1.0000e-005**	**0.0000**	**3.8700e-003**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1031					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.5667					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.7000e-004	2.0000e-005	1.8600e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005	0.0000	3.6400e-003	3.6400e-003	1.0000e-005	0.0000	3.8700e-003
Total	**0.6700**	**2.0000e-005**	**1.8600e-003**	**0.0000**		**1.0000e-005**	**1.0000e-005**		**1.0000e-005**	**1.0000e-005**	**0.0000**	**3.6400e-003**	**3.6400e-003**	**1.0000e-005**	**0.0000**	**3.8700e-003**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	43.8063	1.0650	0.0254	78.0091
Unmitigated	43.8063	1.0650	0.0254	78.0091

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.4975 / 0	3.3523	0.0815	1.9500e-003	5.9697
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	30.1388 / 0	40.4540	0.9835	0.0235	72.0394
Total		**43.8063**	**1.0650**	**0.0254**	**78.0091**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	2.4975 / 0	3.3523	0.0815	1.9500e-003	5.9697
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	30.1388 / 0	40.4540	0.9835	0.0235	72.0394
Total		**43.8063**	**1.0650**	**0.0254**	**78.0091**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	27.5865	1.6303	0.0000	68.3443
Unmitigated	27.5865	1.6303	0.0000	68.3443

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	13.39	2.7181	0.1606	0.0000	6.7339
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	122.51	24.8684	1.4697	0.0000	61.6105
Total		**27.5865**	**1.6303**	**0.0000**	**68.3443**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	13.39	2.7181	0.1606	0.0000	6.7339
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	122.51	24.8684	1.4697	0.0000	61.6105
Total		**27.5865**	**1.6303**	**0.0000**	**68.3443**

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Salinas Airport Lease Project

Monterey County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.80	1000sqft	0.25	10,800.00	0
Unrefrigerated Warehouse-No Rail	130.33	1000sqft	2.99	130,332.00	0
Other Asphalt Surfaces	5.52	Acre	5.52	240,451.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	417.62	**CH4 Intensity (lb/MWhr)**	0.019	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors were reduced to incorporate current remewable energy portfolios

Land Use - Based on project description: a majority of the public works corporation yard would operate for vehicle storage and parking. SF of warehouse use per TIA.

Construction Phase - Project site has minimal grading as it has been previously graded and is flat

Off-road Equipment -

Off-road Equipment - Project site would not support all the equipment

Off-road Equipment - Project site is flat- not much grading required.

Off-road Equipment - Project site would not support all the equipment.

Off-road Equipment - Project site is small and previously graded

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Per TIA; only new use trips included for the warehouse; public yards trips are relocated trips in the region, and therefore not included as new trips for this analysis

Consumer Products -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Area Mitigation - N/A

Energy Mitigation - 2019 Title 24 Standards

Water Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	5.00
tblLandUse	LandUseSquareFeet	130,330.00	130,332.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.019
tblProjectCharacteristics	CO2IntensityFactor	641.35	417.62
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	1.68	3.65
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.68	3.65
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	1.68	3.65

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1796	27.7054	25.1967	0.0578	6.6345	1.1717	7.6424	3.3893	1.1022	4.3165	0.0000	5,728.8367	5,728.8367	0.7717	0.0000	5,748.1291
2021	103.4980	25.2054	24.0933	0.0572	1.7405	0.9921	2.7327	0.4713	0.9330	1.4043	0.0000	5,669.5231	5,669.5231	0.7548	0.0000	5,688.3920
Maximum	**103.4980**	**27.7054**	**25.1967**	**0.0578**	**6.6345**	**1.1717**	**7.6424**	**3.3893**	**1.1022**	**4.3165**	**0.0000**	**5,728.8367**	**5,728.8367**	**0.7717**	**0.0000**	**5,748.1291**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1796	27.7054	25.1967	0.0578	6.6345	1.1717	7.6424	3.3893	1.1022	4.3165	0.0000	5,728.8367	5,728.8367	0.7717	0.0000	5,748.1291
2021	103.4980	25.2054	24.0933	0.0572	1.7405	0.9921	2.7327	0.4713	0.9330	1.4043	0.0000	5,669.5231	5,669.5231	0.7548	0.0000	5,688.3920
Maximum	**103.4980**	**27.7054**	**25.1967**	**0.0578**	**6.6345**	**1.1717**	**7.6424**	**3.3893**	**1.1022**	**4.3165**	**0.0000**	**5,728.8367**	**5,728.8367**	**0.7717**	**0.0000**	**5,748.1291**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Energy	0.0218	0.1980	0.1663	1.1900e-003		0.0151	0.0151		0.0151	0.0151		237.6007	237.6007	4.5500e-003	4.3600e-003	239.0126
Mobile	0.6453	3.0623	7.7878	0.0289	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		2,934.0111	2,934.0111	0.1197		2,937.0025
Total	**4.3390**	**3.2604**	**7.9690**	**0.0301**	**2.9522**	**0.0350**	**2.9872**	**0.7900**	**0.0336**	**0.8236**		**3,171.6438**	**3,171.6438**	**0.1243**	**4.3600e-003**	**3,176.0492**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Energy	0.0160	0.1451	0.1219	8.7000e-004		0.0110	0.0110		0.0110	0.0110		174.1683	174.1683	3.3400e-003	3.1900e-003	175.2033
Mobile	0.6453	3.0623	7.7878	0.0289	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		2,934.0111	2,934.0111	0.1197		2,937.0025
Total	**4.3332**	**3.2076**	**7.9246**	**0.0298**	**2.9522**	**0.0310**	**2.9832**	**0.7900**	**0.0296**	**0.8196**		**3,108.2114**	**3,108.2114**	**0.1231**	**3.1900e-003**	**3,112.2399**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.13	1.62	0.56	1.06	0.00	11.48	0.13	0.00	11.95	0.49	0.00	2.00	2.00	0.97	26.83	2.01

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/7/2020	9/18/2020	5	10	
2	Grading	Grading	9/19/2020	9/25/2020	5	5	
3	Building Construction	Building Construction	10/17/2020	9/3/2021	5	230	
4	Paving	Paving	9/4/2021	10/1/2021	5	20	
5	Architectural Coating	Architectural Coating	10/2/2021	10/29/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2.5

Acres of Paving: 5.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 211,698; Non-Residential Outdoor: 70,566; Striped Parking Area: 14,427 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	160.00	63.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331		1,128.1110	1,128.1110	0.3649		1,137.2324
Total	**1.2890**	**13.4374**	**6.4113**	**0.0116**	**6.0221**	**0.6881**	**6.7102**	**3.3102**	**0.6331**	**3.9433**		**1,128.1110**	**1,128.1110**	**0.3649**		**1,137.2324**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0240	0.0224	0.1890	4.2000e-004	0.0411	3.6000e-004	0.0414	0.0109	3.3000e-004	0.0112		41.4165	41.4165	1.8000e-003		41.4615
Total	**0.0240**	**0.0224**	**0.1890**	**4.2000e-004**	**0.0411**	**3.6000e-004**	**0.0414**	**0.0109**	**3.3000e-004**	**0.0112**		**41.4165**	**41.4165**	**1.8000e-003**		**41.4615**

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331	0.0000	1,128.1110	1,128.1110	0.3649		1,137.2324
Total	**1.2890**	**13.4374**	**6.4113**	**0.0116**	**6.0221**	**0.6881**	**6.7102**	**3.3102**	**0.6331**	**3.9433**	**0.0000**	**1,128.1110**	**1,128.1110**	**0.3649**		**1,137.2324**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category					lb/day								lb/day			
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0240	0.0224	0.1890	4.2000e-004	0.0411	3.6000e-004	0.0414	0.0109	3.3000e-004	0.0112		41.4165	41.4165	1.8000e-003		41.4615
Total	**0.0240**	**0.0224**	**0.1890**	**4.2000e-004**	**0.0411**	**3.6000e-004**	**0.0414**	**0.0109**	**3.3000e-004**	**0.0112**		**41.4165**	**41.4165**	**1.8000e-003**		**41.4615**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266		2,270.9481	2,270.9481	0.7345		2,289.3099
Total	**2.0098**	**22.1756**	**11.4936**	**0.0234**	**6.5523**	**1.0072**	**7.5595**	**3.3675**	**0.9266**	**4.2941**		**2,270.9481**	**2,270.9481**	**0.7345**		**2,289.3099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0481	0.0448	0.3781	8.3000e-004	0.0822	7.1000e-004	0.0829	0.0218	6.5000e-004	0.0224		82.8331	82.8331	3.6000e-003		82.9231
Total	**0.0481**	**0.0448**	**0.3781**	**8.3000e-004**	**0.0822**	**7.1000e-004**	**0.0829**	**0.0218**	**6.5000e-004**	**0.0224**		**82.8331**	**82.8331**	**3.6000e-003**		**82.9231**

3.3 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266	0.0000	2,270.9481	2,270.9481	0.7345		2,289.3099
Total	**2.0098**	**22.1756**	**11.4936**	**0.0234**	**6.5523**	**1.0072**	**7.5595**	**3.3675**	**0.9266**	**4.2941**	**0.0000**	**2,270.9481**	**2,270.9481**	**0.7345**		**2,289.3099**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0481	0.0448	0.3781	8.3000e-004	0.0822	7.1000e-004	0.0829	0.0218	6.5000e-004	0.0224		82.8331	82.8331	3.6000e-003		82.9231
Total	**0.0481**	**0.0448**	**0.3781**	**8.3000e-004**	**0.0822**	**7.1000e-004**	**0.0829**	**0.0218**	**6.5000e-004**	**0.0224**		**82.8331**	**82.8331**	**3.6000e-003**		**82.9231**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2907	7.8031	2.2988	0.0176	0.4261	0.0433	0.4694	0.1227	0.0414	0.1640		1,850.4448	1,850.4448	0.0912		1,852.7254
Worker	0.7691	0.7162	6.0494	0.0133	1.3144	0.0114	1.3257	0.3486	0.0105	0.3591		1,325.3289	1,325.3289	0.0576		1,326.7693
Total	**1.0598**	**8.5193**	**8.3482**	**0.0309**	**1.7405**	**0.0546**	**1.7951**	**0.4713**	**0.0519**	**0.5231**		**3,175.7737**	**3,175.7737**	**0.1488**		**3,179.4946**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.063 1	2,553.063 1	0.6229		2,568.634 5
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.063 1**	**2,553.063 1**	**0.6229**		**2,568.634 5**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2907	7.8031	2.2988	0.0176	0.4261	0.0433	0.4694	0.1227	0.0414	0.1640		1,850.444 8	1,850.444 8	0.0912		1,852.725 4
Worker	0.7691	0.7162	6.0494	0.0133	1.3144	0.0114	1.3257	0.3486	0.0105	0.3591		1,325.328 9	1,325.328 9	0.0576		1,326.769 3
Total	**1.0598**	**8.5193**	**8.3482**	**0.0309**	**1.7405**	**0.0546**	**1.7951**	**0.4713**	**0.0519**	**0.5231**		**3,175.773 7**	**3,175.773 7**	**0.1488**		**3,179.494 6**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2414	7.1341	2.0270	0.0174	0.4262	0.0226	0.4487	0.1227	0.0216	0.1442		1,835.2399	1,835.2399	0.0875		1,837.4271
Worker	0.7092	0.6392	5.4911	0.0129	1.3144	0.0110	1.3253	0.3486	0.0101	0.3588		1,280.9193	1,280.9193	0.0513		1,282.2007
Total	**0.9505**	**7.7733**	**7.5181**	**0.0303**	**1.7405**	**0.0335**	**1.7741**	**0.4713**	**0.0317**	**0.5030**		**3,116.1592**	**3,116.1592**	**0.1387**		**3,119.6278**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2414	7.1341	2.0270	0.0174	0.4262	0.0226	0.4487	0.1227	0.0216	0.1442		1,835.2399	1,835.2399	0.0875		1,837.4271
Worker	0.7092	0.6392	5.4911	0.0129	1.3144	0.0110	1.3253	0.3486	0.0101	0.3588		1,280.9193	1,280.9193	0.0513		1,282.2007
Total	**0.9505**	**7.7733**	**7.5181**	**0.0303**	**1.7405**	**0.0335**	**1.7741**	**0.4713**	**0.0317**	**0.5030**		**3,116.1592**	**3,116.1592**	**0.1387**		**3,119.6278**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9787**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0599	0.5148	1.2100e-003	0.1232	1.0300e-003	0.1243	0.0327	9.5000e-004	0.0336		120.0862	120.0862	4.8100e-003		120.2063
Total	**0.0665**	**0.0599**	**0.5148**	**1.2100e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.5000e-004**	**0.0336**		**120.0862**	**120.0862**	**4.8100e-003**		**120.2063**

3.5 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9787**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0665	0.0599	0.5148	1.2100e-003	0.1232	1.0300e-003	0.1243	0.0327	9.5000e-004	0.0336		120.0862	120.0862	4.8100e-003		120.2063
Total	**0.0665**	**0.0599**	**0.5148**	**1.2100e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.5000e-004**	**0.0336**		**120.0862**	**120.0862**	**4.8100e-003**		**120.2063**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	103.1372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**103.3561**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1418	0.1278	1.0982	2.5800e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0200e-003	0.0718		256.1839	256.1839	0.0103		256.4401
Total	**0.1418**	**0.1278**	**1.0982**	**2.5800e-003**	**0.2629**	**2.2000e-003**	**0.2651**	**0.0697**	**2.0200e-003**	**0.0718**		**256.1839**	**256.1839**	**0.0103**		**256.4401**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	103.1372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**103.3561**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1418	0.1278	1.0982	2.5800e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0200e-003	0.0718		256.1839	256.1839	0.0103		256.4401
Total	**0.1418**	**0.1278**	**1.0982**	**2.5800e-003**	**0.2629**	**2.2000e-003**	**0.2651**	**0.0697**	**2.0200e-003**	**0.0718**		**256.1839**	**256.1839**	**0.0103**		**256.4401**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.6453	3.0623	7.7878	0.0289	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		2,934.0111	2,934.0111	0.1197		2,937.0025
Unmitigated	0.6453	3.0623	7.7878	0.0289	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		2,934.0111	2,934.0111	0.1197		2,937.0025

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	475.70	475.70	475.70	1,388,825	1,388,825
Total	475.70	475.70	475.70	1,388,825	1,388,825

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Other Asphalt Surfaces	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Unrefrigerated Warehouse-No Rail	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0160	0.1451	0.1219	8.7000e-004		0.0110	0.0110		0.0110	0.0110		174.1683	174.1683	3.3400e-003	3.1900e-003	175.2033
NaturalGas Unmitigated	0.0218	0.1980	0.1663	1.1900e-003		0.0151	0.0151		0.0151	0.0151		237.6007	237.6007	4.5500e-003	4.3600e-003	239.0126

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	780.559	8.4200e-003	0.0765	0.0643	4.6000e-004		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003		91.8305	91.8305	1.7600e-003	1.6800e-003	92.3762
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1239.05	0.0134	0.1215	0.1020	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003		145.7702	145.7702	2.7900e-003	2.6700e-003	146.6364
Total		**0.0218**	**0.1980**	**0.1663**	**1.1900e-003**		**0.0151**	**0.0151**		**0.0151**	**0.0151**		**237.6007**	**237.6007**	**4.5500e-003**	**4.3500e-003**	**239.0126**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.605599	6.5300e-003	0.0594	0.0499	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003		71.2469	71.2469	1.3700e-003	1.3100e-003	71.6703
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.874831	9.4300e-003	0.0858	0.0720	5.1000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003		102.9213	102.9213	1.9700e-003	1.8900e-003	103.5329
Total		**0.0160**	**0.1451**	**0.1219**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**		**174.1683**	**174.1683**	**3.3400e-003**	**3.2000e-003**	**175.2032**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Unmitigated	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3600e-003	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Total	**3.6719**	**1.3000e-004**	**0.0149**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0321**	**0.0321**	**8.0000e-005**		**0.0342**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3600e-003	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Total	**3.6719**	**1.3000e-004**	**0.0149**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0321**	**0.0321**	**8.0000e-005**		**0.0342**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Salinas Airport Lease Project

Monterey County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
General Light Industry	10.80	1000sqft	0.25	10,800.00	0
Unrefrigerated Warehouse-No Rail	130.33	1000sqft	2.99	130,332.00	0
Other Asphalt Surfaces	5.52	Acre	5.52	240,451.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	3.6	**Precipitation Freq (Days)**	55
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	417.62	**CH4 Intensity (lb/MWhr)**	0.019	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Intensity factors were reduced to incorporate current remewable energy portfolios

Land Use - Based on project description: a majority of the public works corporation yard would operate for vehicle storage and parking. SF of warehouse use per TIA.

Construction Phase - Project site has minimal grading as it has been previously graded and is flat

Off-road Equipment -

Off-road Equipment - Project site would not support all the equipment

Off-road Equipment - Project site is flat- not much grading required.

Off-road Equipment - Project site would not support all the equipment.

Off-road Equipment - Project site is small and previously graded

Trips and VMT -

Grading -

Architectural Coating -

Vehicle Trips - Per TIA; only new use trips included for the warehouse; public yards trips are relocated trips in the region, and therefore not included as new trips for this analysis

Consumer Products -

Area Coating -

Energy Use -

Water And Wastewater -

Solid Waste -

Area Mitigation - N/A

Energy Mitigation - 2019 Title 24 Standards

Water Mitigation -

Fleet Mix -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	20.00	5.00
tblLandUse	LandUseSquareFeet	130,330.00	130,332.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	1.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.019
tblProjectCharacteristics	CO2IntensityFactor	641.35	417.62
tblProjectCharacteristics	N2OIntensityFactor	0.006	0.004
tblVehicleTrips	ST_TR	1.32	0.00
tblVehicleTrips	ST_TR	1.68	3.65
tblVehicleTrips	SU_TR	0.68	0.00
tblVehicleTrips	SU_TR	1.68	3.65
tblVehicleTrips	WD_TR	6.97	0.00
tblVehicleTrips	WD_TR	1.68	3.65

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1013	27.4686	25.0099	0.0593	6.6345	1.1706	7.6424	3.3893	1.1012	4.3165	0.0000	5,874.1425	5,874.1425	0.7669	0.0000	5,893.3153
2021	103.4865	25.0120	23.9377	0.0586	1.7405	0.9912	2.7317	0.4713	0.9320	1.4033	0.0000	5,811.9499	5,811.9499	0.7498	0.0000	5,830.6945
Maximum	**103.4865**	**27.4686**	**25.0099**	**0.0593**	**6.6345**	**1.1706**	**7.6424**	**3.3893**	**1.1012**	**4.3165**	**0.0000**	**5,874.1425**	**5,874.1425**	**0.7669**	**0.0000**	**5,893.3153**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	3.1013	27.4686	25.0099	0.0593	6.6345	1.1706	7.6424	3.3893	1.1012	4.3165	0.0000	5,874.1425	5,874.1425	0.7669	0.0000	5,893.3153
2021	103.4865	25.0120	23.9377	0.0586	1.7405	0.9912	2.7317	0.4713	0.9320	1.4033	0.0000	5,811.9499	5,811.9499	0.7498	0.0000	5,830.6945
Maximum	**103.4865**	**27.4686**	**25.0099**	**0.0593**	**6.6345**	**1.1706**	**7.6424**	**3.3893**	**1.1012**	**4.3165**	**0.0000**	**5,874.1425**	**5,874.1425**	**0.7669**	**0.0000**	**5,893.3153**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Energy	0.0218	0.1980	0.1663	1.1900e-003		0.0151	0.0151		0.0151	0.0151		237.6007	237.6007	4.5500e-003	4.3600e-003	239.0126
Mobile	0.7102	2.9091	7.6339	0.0305	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		3,091.7059	3,091.7059	0.1172		3,094.6347
Total	**4.4038**	**3.1072**	**7.8151**	**0.0317**	**2.9522**	**0.0350**	**2.9872**	**0.7900**	**0.0336**	**0.8236**		**3,329.3387**	**3,329.3387**	**0.1218**	**4.3600e-003**	**3,333.6815**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Energy	0.0160	0.1451	0.1219	8.7000e-004		0.0110	0.0110		0.0110	0.0110		174.1683	174.1683	3.3400e-003	3.1900e-003	175.2033
Mobile	0.7102	2.9091	7.6339	0.0305	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		3,091.7059	3,091.7059	0.1172		3,094.6347
Total	**4.3980**	**3.0544**	**7.7707**	**0.0313**	**2.9522**	**0.0310**	**2.9832**	**0.7900**	**0.0296**	**0.8195**		**3,265.9063**	**3,265.9063**	**0.1206**	**3.1900e-003**	**3,269.8721**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	0.13	1.70	0.57	1.01	0.00	11.49	0.13	0.00	11.97	0.49	0.00	1.91	1.91	0.99	26.83	1.91

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	9/7/2020	9/18/2020	5	10	
2	Grading	Grading	9/19/2020	9/25/2020	5	5	
3	Building Construction	Building Construction	10/17/2020	9/3/2021	5	230	
4	Paving	Paving	9/4/2021	10/1/2021	5	20	
5	Architectural Coating	Architectural Coating	10/2/2021	10/29/2021	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 2.5

Acres of Paving: 5.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 211,698; Non-Residential Outdoor: 70,566; Striped Parking Area: 14,427 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	1	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	160.00	63.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	32.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331		1,128.1110	1,128.1110	0.3649		1,137.2324
Total	**1.2890**	**13.4374**	**6.4113**	**0.0116**	**6.0221**	**0.6881**	**6.7102**	**3.3102**	**0.6331**	**3.9433**		**1,128.1110**	**1,128.1110**	**0.3649**		**1,137.2324**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0221	0.0178	0.1921	4.4000e-004	0.0411	3.6000e-004	0.0414	0.0109	3.3000e-004	0.0112		44.2335	44.2335	1.8900e-003		44.2807
Total	**0.0221**	**0.0178**	**0.1921**	**4.4000e-004**	**0.0411**	**3.6000e-004**	**0.0414**	**0.0109**	**3.3000e-004**	**0.0112**		**44.2335**	**44.2335**	**1.8900e-003**		**44.2807**

3.2 Site Preparation - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.0221	0.0000	6.0221	3.3102	0.0000	3.3102			0.0000			0.0000
Off-Road	1.2890	13.4374	6.4113	0.0116		0.6881	0.6881		0.6331	0.6331	0.0000	1,128.1110	1,128.1110	0.3649		1,137.2324
Total	**1.2890**	**13.4374**	**6.4113**	**0.0116**	**6.0221**	**0.6881**	**6.7102**	**3.3102**	**0.6331**	**3.9433**	**0.0000**	**1,128.1110**	**1,128.1110**	**0.3649**		**1,137.2324**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0221	0.0178	0.1921	4.4000e-004	0.0411	3.6000e-004	0.0414	0.0109	3.3000e-004	0.0112		44.2335	44.2335	1.8900e-003		44.2807
Total	**0.0221**	**0.0178**	**0.1921**	**4.4000e-004**	**0.0411**	**3.6000e-004**	**0.0414**	**0.0109**	**3.3000e-004**	**0.0112**		**44.2335**	**44.2335**	**1.8900e-003**		**44.2807**

3.3 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266		2,270.9481	2,270.9481	0.7345		2,289.3099
Total	**2.0098**	**22.1756**	**11.4936**	**0.0234**	**6.5523**	**1.0072**	**7.5595**	**3.3675**	**0.9266**	**4.2941**		**2,270.9481**	**2,270.9481**	**0.7345**		**2,289.3099**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0442	0.0356	0.3842	8.9000e-004	0.0822	7.1000e-004	0.0829	0.0218	6.5000e-004	0.0224		88.4670	88.4670	3.7800e-003		88.5614
Total	**0.0442**	**0.0356**	**0.3842**	**8.9000e-004**	**0.0822**	**7.1000e-004**	**0.0829**	**0.0218**	**6.5000e-004**	**0.0224**		**88.4670**	**88.4670**	**3.7800e-003**		**88.5614**

3.3 Grading - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	2.0098	22.1756	11.4936	0.0234		1.0072	1.0072		0.9266	0.9266	0.0000	2,270.9481	2,270.9481	0.7345		2,289.3099
Total	**2.0098**	**22.1756**	**11.4936**	**0.0234**	**6.5523**	**1.0072**	**7.5595**	**3.3675**	**0.9266**	**4.2941**	**0.0000**	**2,270.9481**	**2,270.9481**	**0.7345**		**2,289.3099**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0442	0.0356	0.3842	8.9000e-004	0.0822	7.1000e-004	0.0829	0.0218	6.5000e-004	0.0224		88.4670	88.4670	3.7800e-003		88.5614
Total	**0.0442**	**0.0356**	**0.3842**	**8.9000e-004**	**0.0822**	**7.1000e-004**	**0.0829**	**0.0218**	**6.5000e-004**	**0.0224**		**88.4670**	**88.4670**	**3.7800e-003**		**88.5614**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2749	7.7136	2.0136	0.0181	0.4261	0.0422	0.4683	0.1227	0.0403	0.1630		1,905.6073	1,905.6073	0.0836		1,907.6978
Worker	0.7066	0.5689	6.1478	0.0142	1.3144	0.0114	1.3257	0.3486	0.0105	0.3591		1,415.4722	1,415.4722	0.0604		1,416.9831
Total	**0.9815**	**8.2826**	**8.1614**	**0.0323**	**1.7405**	**0.0535**	**1.7940**	**0.4713**	**0.0508**	**0.5221**		**3,321.0795**	**3,321.0795**	**0.1441**		**3,324.6808**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2749	7.7136	2.0136	0.0181	0.4261	0.0422	0.4683	0.1227	0.0403	0.1630		1,905.6073	1,905.6073	0.0836		1,907.6978
Worker	0.7066	0.5689	6.1478	0.0142	1.3144	0.0114	1.3257	0.3486	0.0105	0.3591		1,415.4722	1,415.4722	0.0604		1,416.9831
Total	**0.9815**	**8.2826**	**8.1614**	**0.0323**	**1.7405**	**0.0535**	**1.7940**	**0.4713**	**0.0508**	**0.5221**		**3,321.0795**	**3,321.0795**	**0.1441**		**3,324.6808**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.363 9	2,553.363 9	0.6160		2,568.764 3
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.363 9**	**2,553.363 9**	**0.6160**		**2,568.764 3**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2267	7.0721	1.7626	0.0180	0.4262	0.0216	0.4477	0.1227	0.0206	0.1433		1,890.538 6	1,890.538 6	0.0799		1,892.535 3
Worker	0.6517	0.5079	5.6000	0.0138	1.3144	0.0110	1.3253	0.3486	0.0101	0.3588		1,368.047 3	1,368.047 3	0.0539		1,369.395 0
Total	**0.8784**	**7.5799**	**7.3625**	**0.0317**	**1.7405**	**0.0326**	**1.7731**	**0.4713**	**0.0308**	**0.5020**		**3,258.586 0**	**3,258.586 0**	**0.1338**		**3,261.930 2**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.2267	7.0721	1.7626	0.0180	0.4262	0.0216	0.4477	0.1227	0.0206	0.1433		1,890.5386	1,890.5386	0.0799		1,892.5353
Worker	0.6517	0.5079	5.6000	0.0138	1.3144	0.0110	1.3253	0.3486	0.0101	0.3588		1,368.0473	1,368.0473	0.0539		1,369.3950
Total	**0.8784**	**7.5799**	**7.3625**	**0.0317**	**1.7405**	**0.0326**	**1.7731**	**0.4713**	**0.0308**	**0.5020**		**3,258.5860**	**3,258.5860**	**0.1338**		**3,261.9302**

3.5 Paving - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235		2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9787**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**		**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0611	0.0476	0.5250	1.2900e-003	0.1232	1.0300e-003	0.1243	0.0327	9.5000e-004	0.0336		128.2544	128.2544	5.0500e-003		128.3808
Total	**0.0611**	**0.0476**	**0.5250**	**1.2900e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.5000e-004**	**0.0336**		**128.2544**	**128.2544**	**5.0500e-003**		**128.3808**

3.5 Paving - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.2556	12.9191	14.6532	0.0228		0.6777	0.6777		0.6235	0.6235	0.0000	2,207.2109	2,207.2109	0.7139		2,225.0573
Paving	0.7231					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.9787**	**12.9191**	**14.6532**	**0.0228**		**0.6777**	**0.6777**		**0.6235**	**0.6235**	**0.0000**	**2,207.2109**	**2,207.2109**	**0.7139**		**2,225.0573**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0611	0.0476	0.5250	1.2900e-003	0.1232	1.0300e-003	0.1243	0.0327	9.5000e-004	0.0336		128.2544	128.2544	5.0500e-003		128.3808
Total	**0.0611**	**0.0476**	**0.5250**	**1.2900e-003**	**0.1232**	**1.0300e-003**	**0.1243**	**0.0327**	**9.5000e-004**	**0.0336**		**128.2544**	**128.2544**	**5.0500e-003**		**128.3808**

3.6 Architectural Coating - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	103.1372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941		281.4481	281.4481	0.0193		281.9309
Total	**103.3561**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**		**281.4481**	**281.4481**	**0.0193**		**281.9309**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1304	0.1016	1.1200	2.7500e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0200e-003	0.0718		273.6095	273.6095	0.0108		273.8790
Total	**0.1304**	**0.1016**	**1.1200**	**2.7500e-003**	**0.2629**	**2.2000e-003**	**0.2651**	**0.0697**	**2.0200e-003**	**0.0718**		**273.6095**	**273.6095**	**0.0108**		**273.8790**

3.6 Architectural Coating - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	103.1372					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2189	1.5268	1.8176	2.9700e-003		0.0941	0.0941		0.0941	0.0941	0.0000	281.4481	281.4481	0.0193		281.9309
Total	**103.3561**	**1.5268**	**1.8176**	**2.9700e-003**		**0.0941**	**0.0941**		**0.0941**	**0.0941**	**0.0000**	**281.4481**	**281.4481**	**0.0193**		**281.9309**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.1304	0.1016	1.1200	2.7500e-003	0.2629	2.2000e-003	0.2651	0.0697	2.0200e-003	0.0718		273.6095	273.6095	0.0108		273.8790
Total	**0.1304**	**0.1016**	**1.1200**	**2.7500e-003**	**0.2629**	**2.2000e-003**	**0.2651**	**0.0697**	**2.0200e-003**	**0.0718**		**273.6095**	**273.6095**	**0.0108**		**273.8790**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.7102	2.9091	7.6339	0.0305	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		3,091.7059	3,091.7059	0.1172		3,094.6347
Unmitigated	0.7102	2.9091	7.6339	0.0305	2.9522	0.0199	2.9721	0.7900	0.0185	0.8085		3,091.7059	3,091.7059	0.1172		3,094.6347

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	0.00	0.00	0.00		
Other Asphalt Surfaces	0.00	0.00	0.00		
Unrefrigerated Warehouse-No Rail	475.70	475.70	475.70	1,388,825	1,388,825
Total	475.70	475.70	475.70	1,388,825	1,388,825

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Unrefrigerated Warehouse-No Rail	9.50	7.30	7.30	59.00	0.00	41.00	92	5	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Other Asphalt Surfaces	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566
Unrefrigerated Warehouse-No Rail	0.570855	0.025085	0.211755	0.109607	0.013440	0.004195	0.020564	0.029242	0.004139	0.002109	0.007212	0.001232	0.000566

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

Exceed Title 24

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0160	0.1451	0.1219	8.7000e-004		0.0110	0.0110		0.0110	0.0110		174.1683	174.1683	3.3400e-003	3.1900e-003	175.2033
NaturalGas Unmitigated	0.0218	0.1980	0.1663	1.1900e-003		0.0151	0.0151		0.0151	0.0151		237.6007	237.6007	4.5500e-003	4.3600e-003	239.0126

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	780.559	8.4200e-003	0.0765	0.0643	4.6000e-004		5.8200e-003	5.8200e-003		5.8200e-003	5.8200e-003		91.8305	91.8305	1.7600e-003	1.6800e-003	92.3762
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	1239.05	0.0134	0.1215	0.1020	7.3000e-004		9.2300e-003	9.2300e-003		9.2300e-003	9.2300e-003		145.7702	145.7702	2.7900e-003	2.6700e-003	146.6364
Total		**0.0218**	**0.1980**	**0.1663**	**1.1900e-003**		**0.0151**	**0.0151**		**0.0151**	**0.0151**		**237.6007**	**237.6007**	**4.5500e-003**	**4.3500e-003**	**239.0126**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.605599	6.5300e-003	0.0594	0.0499	3.6000e-004		4.5100e-003	4.5100e-003		4.5100e-003	4.5100e-003		71.2469	71.2469	1.3700e-003	1.3100e-003	71.6703
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unrefrigerated Warehouse-No Rail	0.874831	9.4300e-003	0.0858	0.0720	5.1000e-004		6.5200e-003	6.5200e-003		6.5200e-003	6.5200e-003		102.9213	102.9213	1.9700e-003	1.8900e-003	103.5329
Total		**0.0160**	**0.1451**	**0.1219**	**8.7000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**		**174.1683**	**174.1683**	**3.3400e-003**	**3.2000e-003**	**175.2032**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Unmitigated	3.6719	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3600e-003	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Total	**3.6719**	**1.3000e-004**	**0.0149**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0321**	**0.0321**	**8.0000e-005**		**0.0342**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.5651					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.1054					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	1.3600e-003	1.3000e-004	0.0149	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005		0.0321	0.0321	8.0000e-005		0.0342
Total	**3.6719**	**1.3000e-004**	**0.0149**	**0.0000**		**5.0000e-005**	**5.0000e-005**		**5.0000e-005**	**5.0000e-005**		**0.0321**	**0.0321**	**8.0000e-005**		**0.0342**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

Install Low Flow Bathroom Faucet

Install Low Flow Kitchen Faucet

Install Low Flow Toilet

Install Low Flow Shower

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

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

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

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

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

N2O Operational GHG Emission Mobile Calculations

Project Code & Title: Salinas Airport Least Project

Vehicle Population Breakdown*	
263889	Gasoline vehicles
6438	Diesel vehicles
97.6%	Gasoline vehicle %
2.4%	Diesel vehicle %

VMT per Vehicle Type	
1388825	Project VMT (CalEEMod output)
1355750	Gasoline vehicle VMT
33075	Diesel vehicle VMT

Gasoline Vehicles	
97.6%	Gasoline vehicle %
0.572	Tons per year mobile NOX emissions (annual output in CalEEMod)
0.56	Gasoline vehicle tons per year NOX emissions
4.16%	Percentage to convert NOX emissions to N2O **
0.0232	Tons per year N2O emissions for gasoline vehicles
0.0211	Metric tons per year N2O emissions for gasoline vehicles

Diesel Vehicles	
0.3316	grams N2O per gallon of fuel for diesel vehicles**
27.13	Diesel average miles per gallon*
0.01222	grams per mile N2O for diesel vehicles
404.3	grams per year N2O for diesel vehicles
0.0004043	Metric tons per year N2O emissions for diesel vehicles

CO2E Emissions from N2O	
0.0215	Metric tons per year from gasoline + diesel vehicles
265	GWP of N2O***
5.7	**CO2E emissions per year from N2O emissions from gasoline + diesel vehicles**

Sources
***Vehicle population source:** EMFAC2014 (v1.0.7) Emissions Inventory Region Type: Air District Region: SCAQMD Calendar Year: 2022 Season: Annual Vehicle Classification: EMFAC2011 Categories ****Methodology source:** EMFAC2011 Frequently Asked Questions https://www.arb.ca.gov/msei/emfac2011-faq.htm *****GWP source:** Intergovernmental Panel on Climate Change (IPCC). 2014. AR5 Climate Change 2014 Contrbution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

Appendix B

Traffic Impact Analysis, Kimley-Horn

TRANSPORTATION IMPACT ANALYSIS - DRAFT

AIRPORT INDUSTRIAL PARK

SALINAS, CALIFORNIA

Prepared for:
City of Salinas
200 Lincoln Avenue
Salinas, California 93901

Prepared by:
Kimley-Horn

September 2019
095936010

TRANSPORTATION IMPACT ANALYSIS - DRAFT

FOR

AIRPORT INDUSTRIAL PARK

Prepared for:
City of Salinas
200 Lincoln Avenue
Salinas, California 93901

Prepared by:
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100 West San Fernando Street, Suite 250
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EXECUTIVE SUMMARY

This Transportation Impact Analysis (TIA) presents the findings of a transportation evaluation that was conducted to analyze the development of an industrial park project at the Salinas Municipal Airport and potential effects it could have on the local transportation network. The project includes the relocation of an existing city public works building from the northwest corner of John Street & Work Street onto the project site, as well as the proposed construction of 65,166 square feet of warehousing and 65,166 square feet of light industrial land uses.

The TIA was conducted for the following analysis scenarios:

- **Scenario 1: Existing Conditions**
- **Scenario 2: Existing Plus Project Conditions**
- **Scenario 3: Background Conditions**
- **Scenario 4: Background Project Conditions**
- **Scenario 5: Cumulative Conditions**
- **Scenario 6: Cumulative Plus Project Conditions**

This study complies with traffic impact study guidelines and criteria set forth by the City of Salinas and study intersections were selected based on discussion with City of Salinas staff.

Study Intersections

The study intersections identified below were selected based on the proposed trip generation, estimated trip distribution, and guidance from City of Salinas Public Works staff. The Project trip distribution was developed based on traffic patterns in the study area and knowledge of the study area.

#	Intersection	Maintaining Agency
1	NB US 101 Ramps & Roy Diaz Street	Caltrans
2	Terven Avenue & Airport Boulevard	Caltrans
3	Roy Diaz Street & Airport Boulevard	City of Salinas
4	Skyway Boulevard & Airport Boulevard	City of Salinas
5	East Alisal Street & Skyway Boulevard	City of Salinas

Trip Generation Estimates

The Project proposes to construct approximately 65,166 square feet of warehousing and 65,166 of light industrial land uses, in addition to relocating the public works site from its existing location at the northeast corner of the intersection of Work Street & John Street in the City of Salinas. Based on the Project description, Public Works Yard driveway counts, and ITE data and methodologies, the ***net new Project trip generation would be 1,214 daily trips, 153 AM peak hour trips (114 IN / 39 OUT) and 94 PM peak hour trips (20 IN / 74 OUT)***.

Impacts and Mitigation Measures

Construction of the Project would result in level of service impacts at the study intersections primarily where intersections are already failing in base (without project) conditions.

The following recommendations are provided to mitigate any potential project impacts on intersections that are operating below city/state LOS standards for each of the following scenarios:

Existing Plus Project Conditions

HCM analysis results show that most of the study intersections will operate at acceptable LOS during the AM and PM peak hours under Existing Plus Project conditions when measured against the maintaining agency's LOS standard, with the following exceptions:

- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps would operate at LOS E during the AM peak hour and LOS D during the PM peak hour.

Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps Mitigation: The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under Existing and Existing Plus Project conditions. Because this project is included in the City's TFO, payment of traffic impact fees will mitigate the project impact at this intersection. The improvement has, however, substantial financial implications and the burden such that no single project can implement the improvement. Subsequently the City of Salinas will work with Caltrans District 5 staff to identify the improvements needed, including both long term and encroachment permit only improvements (shorter term), that would improve operations at the interchange to acceptable conditions. The City would allocate TIF fees towards the interchange improvement and focus on implementation of a suitable mitigation measure at the US 101 southbound ramps. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

The following short term (encroachment permit) projects have been identified at the intersection of <u>Airport Boulevard/Terven Avenue & US 101 Southbound On/Off Ramps:</u>

- Eliminate the Airport Boulevard slip ramp onto the Airport Boulevard overpass and convert the intersection into a typical intersection with dual right turn lanes on the eastbound Airport Boulevard approach.
- Restripe US 101 southbound off ramp approach from the main line to include a shared through and right turn lane, and dual left turn lanes.
- Widen the Airport Boulevard overpass approach to include a left turn pocket, a shared through, a right turn lane and two receiving lanes.
- Restripe the Terven Avenue approach to include one left-turn pocket and one shared thru-right lane.
- Eliminate split signal phasing

It is anticipated that the following mitigations will result in the intersection operating at LOS D during the AM peak hour and LOS C during the PM peak hour under existing plus project conditions. While the AM peak hour is still anticipated to operate below Caltrans LOS standards under these short-term mitigations, the overall control delay with these mitigations is reduced compared to Existing Conditions control delay eliminating any significant impacts from the Project.

Background Plus Project Conditions

Many study intersections are anticipated to operate at unacceptable LOS as follows:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS F on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS E during the PM peak hour.
- The intersection of Airport Boulevard & Skyway Boulevard is anticipated to operate at unacceptable LOS E during the PM peak hour under Background Plus Project conditions.

Roy Diaz Street & US 101 Northbound Ramps Mitigation: The Salinas Travel Center TIA (2017) recommends this intersection be signalized as a mitigation to its project traffic to be paid for by the Travel Center project. It is anticipated that with a signal, this intersection would operate at acceptable LOS C during PM peak hour under background plus project conditions eliminating any significant project impacts.

Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps Mitigation: The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard. Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under existing and plus project conditions. Because this project is included in the city's TFO, payment of traffic impact fees will mitigate the project impact at this intersection. The improvement has however substantial financial implications and the burden such that no single project can implement the improvement. Subsequently the City of Salinas will work with CaltransD5 staff to identify the improvements needed, including both long term and encroachment permit only improvements (shorter term), that would improve operations at the interchange to acceptable conditions. The City would allocate TIF fees towards the interchange improvement and focus on implementation of a suitable mitigation measure at the southbound ramps. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

The following short term (encroachment permit) projects have been identified at the <u>Airport Boulevard/Terven Avenue & Us 101 Southbound On/Off Ramps:</u>

- Eliminate the Airport Boulevard slip ramp onto the Airport Boulevard overpass and convert the intersection into a typical intersection with dual right turn lanes on the eastbound Airport Boulevard approach.

- Restripe US 101 southbound off ramp approach from the main line to include a shared through and right turn lane, and dual left turn lanes.
- Widen the Airport Boulevard overpass approach to include a left turn pocket, a shared through, a right turn lane and two receiving lanes.
- Restripe the Terven Avenue approach to include one left-turn pocket and one shared thru-right lane.
- Eliminate split signal phasing

It is anticipated that this mitigation will result in improved intersection operations at LOS E and LOS D during the AM and PM peak hours under Background Plus Project conditions. While the AM and PM peak hours are still anticipated to operate below Caltrans LOS standards under these short-term mitigations, the overall control delay with these mitigations is reduced compared to Background Conditions control delay eliminating any significant impacts from the Project.

Airport Boulevard & Skyway Boulevard Mitigation: The Airport Boulevard & Skyway Boulevard intersection is anticipated to operate at an unacceptable LOS E during the PM peak hour under Background Plus Project conditions. The addition of Project traffic causes the unsignalized intersection to operate below the City's LOS standard until a signal is installed. A signal will be installed at this intersection as part of the Travel Center's mitigations prior to completion of the Travel Center. As an alternative a roundabout could also be installed at this intersection to mitigate project impacts.

Cumulative Plus Project Conditions

The planned US 101 / Harris Road interchange, which is assumed to be built by the year 2035 is anticipated to alter traffic patterns by shifting some traffic from Airport Boulevard and Sanborn Road interchanges as well as the Blanco Road / Sanborn Road corridor to the new interchange. This improvement is expected to reduce traffic volumes along Airport Boulevard by approximately 25% compared to no interchange conditions. As a result of this assumption all intersections are anticipated to operate at acceptable LOS under Cumulative Plus Project conditions except for:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS D on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS D during the PM peak hour.

Roy Diaz Street & US 101 Northbound Ramps Mitigation: The Salinas Travel Center TIA (2017) recommends this intersection be signalized as a mitigation to its project traffic to be paid for by the Travel Center project. It is anticipated that with a signal, this intersection would operate at acceptable LOS B during AM peak hour under Cumulative plus project conditions eliminating any significant project impacts.

Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps Mitigation: The new Airport Boulevard Interchange project should be constructed. The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard.

Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under cumulative plus project conditions. Because this project is included in the city's TFO, payment of traffic impact fees will mitigate the project impact at this intersection. The improvement has however substantial financial implications and the burden such that no single project can implement the improvement. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

It is anticipated that after the completion of the Airport Boulevard Interchange Project the study intersection will operate at LOS C during the AM and PM peak hours under Cumulative Plus Project conditions.

Freeway Segment Level of Service

The Project was evaluated to determine if it would adversely affect freeway mainline operations as a result of project trips added to US 101 within the city of Salinas. The following freeway segments were identified to be analyzed:

Freeway Segment (From – To)	Maintaining Agency	LOS Standard
Fairview Ave – Airport Blvd	Caltrans	C/D
Airport Blvd – Roy Diaz St	Caltrans	C/D

The project will have no impacts on the study freeway segments under Existing or Background Plus Project conditions. Freeway segment conditions were evaluated based on cumulative condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under Cumulative conditions except for Northbound US 101 between Fairview Avenue and Airport Boulevard which is anticipated to operate at LOS D during the PM peak hour.

Mitigation: The City of Salinas TFO identifies a US 101 widening project along Northbound US 101 between Fairview Avenue and Airport Boulevard which would increase service to 3 lanes. This lane would improve the segment LOS to acceptable standards and result in no significant project impacts. As this project is included in the City of Salinas TFO and the TAMC regional TIF program, payment of traffic impact fees is an appropriate mitigation for the proposed project as the City of Salinas continues to work with Caltrans in implementing this improvement.

Site Circulation and Access

The Project was evaluated to determine if it would adversely affect adopted policies, plans, or programs supporting access management, site circulation and alternative transportation (e.g., bus turnouts, bicycle racks) or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by transit, bicycle, or pedestrian facilities and plans.

The Project proposes to construct pedestrian facility improvements, in compliance with adopted City standards, that would improve pedestrian mobility within the City. Although the City of Salinas has no threshold of significance pedestrian, bicycle, and transit mobility, the project plans to improve these facilities to have a positive impact on these modes. In addition, it is recommended in accordance with good site circulation and access management practice that the proposed project remove any planed driveways on Airport Boulevard and instead use Skyway Boulevard and Mercer Way to provide access to the Project.

Traffic Impact Fees

The City of Salinas does have a TIF program for Projects to pay into, therefore, the proposed Project is responsible for TIF payments as outlined in the City of Salinas TFO. Developments must pay the current rate of $390 per daily trip as outlined in the annually adjusted traffic fee schedule. The total fee for the proposed project generating 1,214 daily trips is $473,460.

The Transportation Agency for Monterey County (TAMC) also has a TIF program for Projects to pay into, therefore, the proposed Project is responsible for TIF payments as outlined in the Regional Development Impact Fee Program Nexus Study Update (2018). Salinas developments must pay the rate of $346 per daily trip. The total fee for the proposed project generating 1,214 daily trips is $420,044.

1. INTRODUCTION

This Transportation Impact Analysis (TIA) presents the findings of a transportation evaluation that was conducted to analyze the development of an industrial park project at the Salinas Municipal Airport and potential effects it could have on the local transportation network. The project includes the relocation of an existing city public works building from the northwest corner of John Street & Work Street onto the project site, as well as the proposed construction of 65,166 square feet of warehousing and 65,166 square feet of light industrial land uses.

This study complies with traffic impact study guidelines and criteria set forth by the City of Salinas and study intersections were selected based on discussion with City of Salinas staff.

Figure 1 shows the proposed project site location.

Analysis Methodology

Development Conditions

This transportation impact analysis is based on the following development conditions:

Scenario 1: Existing Conditions

This scenario represents current traffic count data that was collected on Thursday, August 1, 2019 and existing roadway geometry and traffic control.

Scenario 2: Existing Plus Project Conditions

This scenario represents existing traffic conditions with the addition of the proposed Project.

Scenario 3: Background Conditions

This scenario represents existing conditions lane geometries and traffic control plus background development estimated for approved and pending projects that are anticipated to occur by the time the Project is constructed. The volume forecasts are based on a list of pending and approved development projects provided by City of Salinas staff.

Scenario 4: Background Plus Project Conditions

This scenario represents background traffic conditions with the addition of the proposed Project.

Scenario 5: Cumulative Conditions

This scenario is based on the cumulative roadway network and traffic conditions that would occur with the buildout of the City of Salinas General Plan by the year 2040.

Scenario 6: Cumulative Plus Project Conditions

This scenario represents cumulative year traffic conditions with the addition of the proposed Project.

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Figure 1

Project Location Map

Operating Conditions and Criteria for Intersections

Analysis of potential impacts at roadway intersections is based on the concept of Level of Service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating at or near its functional capacity. Levels of Service for this study were determined using methods defined in the *Highway Capacity Manual (HCM) 6th Edition* and *Synchro 10, HCS 7* and *Sidra Intersection 8* traffic analyses software.

HCM methodologies include procedures for analyzing side-street stop-controlled (SSSC), all-way stop-controlled (AWSC), and signalized intersections. The SSSC procedure defines LOS as a function of average control delay for each minor street approach movement. Conversely, the AWSC and signalized intersection procedures define LOS as a function of average control delay for the overall intersection. **Table 1** relates the operational characteristics associated with each LOS category for signalized and unsignalized intersections.

Table 1 – Intersection Level of Service Definitions

Level of Service	Description	Signalized (Avg. control delay per vehicle sec/veh.)	Unsignalized (Avg. control delay per vehicle sec/veh.)
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream	Less than 10	less than 10
B	Stable traffic. Traffic flows smoothly with few delays.	less than or equal to 10 to 20	less than or equal to 10 to 15
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	less than or equal to 20 to 35	less than or equal to 15 to 25
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	less than or equal to 35 to 55	less than or equal to 25 to 35
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	less than or equal to 55 to 80	less than or equal to 35 to 50
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	greater than or equal to 80	greater than or equal to 50
Sources: Transportation Research Board, *Highway Capacity Manual 6th Edition*, National Research Council.			

Operating Conditions and Criteria for Roundabouts

Analysis of potential impacts at roundabouts is based on the concept of Level of Service (LOS). The LOS of roundabouts is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst). Levels of Service for this study were determined using methods defined in the Highway Capacity Manual (HCM) and SIDRA 8 traffic analysis software. Roundabout analysis often requires careful calibration of the software model to conditions observed in the field to obtain accurate LOS. SIDRA 8 allows for this level of calibration to reflect actual operating conditions observed at study roundabouts. Table 2 shows the level of service criteria for automobiles in roundabouts.

Table 2 – Roundabout Level of Service Criteria

Control Delay (s/veh)	LOS by Volumes-to-Capacity Ratio	
	v/c ≤ 0.85	v/c > 0.85
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

Source: Highway Capacity Manual, Transportation Research Board.

Project impacts are determined by comparing "no project" conditions to "plus project" conditions, which indicates whether or not proposed projects are anticipated to cause significant impacts to the transportation network. Significant impacts for intersections are created when traffic from the proposed Project causes the LOS to fall below the maintaining agency's LOS threshold or causes deficient intersections to deteriorate further.

All study intersections are located within the City of Salinas and are maintained by either the City of Salinas or Caltrans. The City and Caltrans LOS standards and impact criteria are described below.

City of Salinas (City)

The City of Salinas Traffic Level of Service (LOS) Criteria Policy C-1.2 (2002) establishes LOS D as the minimum acceptable LOS for all intersections and roadways within the city limits. Significant impacts occur when the addition of project traffic cause an intersection to operate at LOS E or LOS F. New developments are required to contribute to any improvements to the roadway network that are necessitated by the additional traffic generated by the new development.

Caltrans

Caltrans establishes the transition between LOS C and LOS D as the minimum acceptable LOS at signalized intersections. Significant impacts occur when the intersection degrades from a LOS C or better to a LOS D or worse with the addition of the project, or when the intersection is at an unacceptable LOS D or worse under baseline conditions and the addition of the project further increases vehicle delay. If an un-signalized intersection is LOS D or worse in baseline conditions and meets or exceeds the CAMUTCD peak hour signal warrant threshold under plus project conditions, it is a significant impact.

Freeway segment LOS is determined based on density in the form of passenger cars per mile per lane on each segment. The freeway segment capacities are based on the Highway Capacity Manual 6th Edition (HCM6) by considering inputs of number of lanes, free flow speed, terrain, truck percentage and other factors. Caltrans defines an acceptable level of service as the transition between LOS C and D for freeway segments.

Study Intersections and Freeway Segments

The proposed Project would generate new vehicular trips that would increase traffic volumes on the local street network and on the US 101 freeway. To assess changes in traffic conditions, the intersections listed in **Table 3** and the freeway segments listed in **Table 4** were selected for evaluation in consultation with City of Salinas staff. These study intersections are illustrated in **Figure 2**.

Table 3 – Study Intersections

#	Intersection	Maintaining Agency	LOS Standard	Intersection Control
1	NB US 101 Ramps & Roy Diaz St	Caltrans	C/D	SSSC
2	Terven Ave / Airport Blvd & SB US 101 Ramps	Caltrans	C/D	Signalized
3	Roy Diaz St & Airport Blvd	City of Salinas	D	Signalized
4	Skyway Blvd & Airport Blvd	City of Salinas	D	AWSC
5	East Alisal St & Skyway Blvd	City of Salinas	D	Roundabout

Table 4 – Study Freeway Segments

Freeway Segment (From – To)	Maintaining Agency	LOS Standard
Fairview Ave – Airport Blvd	Caltrans	C/D
Airport Blvd – Roy Diaz St	Caltrans	C/D

Traffic Impact Fees

Section 7 of the 2010 City of Salinas Traffic Improvement Program outlines a Traffic Impact Fee (TIF) program for projects to pay into to help mitigate transportation related impacts throughout the city. The Transportation Agency for Monterey County (TAMC) also utilizes a TIF program for projects to pay into to help mitigate regional transportation related impacts throughout the County. It is anticipated the proposed Project would pay into the transportation impact fee programs to help fund mitigations for the Project. When a cumulative impact mitigation in this report is included in either the City of Salinas TIF or the TAMC TIF, it is identified as eligible for mitigation through the payment of a TIF by the project.

TIA fees are discussed further in Chapter 8 of this report.

Report Organization

This transportation impact analysis includes the following chapters:

Chapter 2 describes the existing pedestrian, bike, transit, and motorist transportation system in the Project vicinity, as well as current operating conditions at study intersections.

Chapter 3 discusses the proposed Project's trip generation characteristics, as well as methodologies and assumptions used to estimate the net Project traffic added to study intersections.

Chapter 4 discusses Existing Plus Project Conditions and analysis.

Chapter 5 discusses Background Conditions with and without the Project.

Chapter 6 discusses Cumulative Conditions with and without the Project.

Chapter 7 presents potential impacts on pedestrian, bicycle, and transit mobility due to the Project.

Chapter 8 describes traffic impact fee (TIF) programs within the city and calculates the TIF for the proposed development.

A technical **Appendix** is also attached containing traffic count data, and intersection level of service analysis output sheets.

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Figure 2

Study Intersection Map

2. EXISTING CONDITIONS

This chapter describes existing transportation network conditions including local roadways, traffic count data, and nearby transit stops, as well as connectivity of pedestrian and bicyclist facilities.

Existing Roadway Network

The following describes the principal roadways located in the study area:

East Alisal Street is in the southern portion of the city beginning as West Alisal Street at West Blanco Road and curving northeast toward Main Street. East Alisal Street continues east of Main Street under US 101 to the Hartnell College East Campus, curving south and changing names to Alisal Road at the eastern city limits. Alisal Street is owned and maintained by the City of Salinas and is generally classified as a four-lane major arterial street; with separate left-turn pockets provided at most intersections. The City has adopted plans which recommend a road-diet option to convert East Alisal Street to a 3-lane facility with bike lanes. The posted speed limit is 30 miles per hour west of the study area and 35 miles per hour in the study area.

Skyway Boulevard is a north/south four-lane undivided minor arterial extending from Mortensen Avenue in the south to East Alisal Street in the north. The street is approximately one-half mile long and provides access to the Salinas Airport from the north. This street is owned and maintained by the City of Salinas with an existing speed limit of 35 miles per hour. For the purpose of analysis in this report the existing speed limit was used. However, it is acknowledged that this speed limit will soon expire and may be changed pursuant to findings of an ongoing study.

Airport Boulevard is an east/west undivided two-lane minor arterial extending from Hansen Street in the west to Skyway Boulevard in the east. The street is approximately one mile long and provides access between the airport and Southbound US 101 as well as access to the southwest side of the city. This street is owned and maintained by the City of Salinas with a speed limit of 45 miles per hour.

Roy Diaz Street is a north/south two-lane undivided collector extending from Airport Boulevard in the north to the Northbound US 101 Ramps in the south. The street is approximately one-third mile long and provides access to the Salinas Airport from Northbound US 101. This street is owned and maintained by the City of Salinas with a speed limit of 35 miles per hour.

Terven Avenue is a north/south two-lane undivided collector extending from Airport Boulevard in the south to South Sanborn Road in the north. The street is approximately one-half mile long and provides access to industrial businesses on the west side of US 101. This street is owned and maintained by the City of Salinas with a speed limit of 35 miles per hour.

US 101 is a north/south four-lane divided freeway serving as the major arterial connecting Salinas to the surrounding region. It provides access to Roy Diaz Street and Airport Boulevard near the study area. This street is owned and maintained by the State of California Department of Transportation with a speed limit of 65 miles per hour.

Existing Peak-Hour Turning Movement Volumes

Weekday intersection turning movement volumes for three of the five existing study intersections were collected on Thursday, August 1, 2019. In addition, a site visit was conducted on Tuesday August 13, 2019 to document current conditions at each study intersection. Traffic volume count data for intersections was collected from 6:30 to 9:00 AM and 4:00 to 6:00 PM to include peak AM and PM commute times. The count data includes vehicles, bicycles, and pedestrians and all traffic counts were collected when the weather was fair. A 15% seasonal adjustment factor was applied to the collected data to account for increased volumes under school year traffic, since traffic counts were collected when school was not in session. Based on existing counts at study intersections reported in the Travel Center TIA (2017) the 15% seasonal adjustment factor is a conservative assumption resulting in turning movement volumes greater than existing conditions in 2017. For the two intersections not counted, traffic counts from previous studies were provided by the City and volumes were increased by an annual growth rate of 0.75% to reflect existing 2019 conditions at these intersections.

The highest one-hour morning (AM) and one-hour evening (PM) peaks were selected for analysis, consistent with City and State guidelines. Peak hour volumes at each intersection's respective peak were conservatively used in this analysis, therefore, some volume imbalances were observed between study intersections. Existing study intersection geometries are shown in **Figure 3** while peak hour turning movement volumes are shown in **Figure 4**,

The peak hour factor (PHF) is a measure that reflects peak 15-minute traffic volumes that occur during an analysis hour at intersection *i* and can be calculated using the following formula:

$$PHF_i = \frac{Peak\ Hour\ Volume_i}{4 * (15\ Minute\ Peak\ Volume_i)}$$

Traffic count data indicates that PHF at the study intersections range from 0.74 to 0.82 during the AM peak hour and 0.92 to 0.94 during the PM peak hour.

U-turns are analyzed (and illustrated in all figures) as left-turns as HCM methodologies do not support analysis of u-turns. Intersection volume data sheets for all traffic counts are provided in the **Appendix**.

Existing Study Freeway Segment Volumes

Average annual daily traffic (AADT) volumes for the northbound and southbound lanes of the study freeway segments were obtained from the Caltrans Performance Measurement System published on the Caltrans website. These volumes are estimated based of a series of sampled volume counts over the course of the year that are adjusted to represent the overall average daily traffic that is expected to occur on the freeway segment. The most recent data available was 2017 AADT data. To adjust for 2019 existing freeway volumes an average growth rate of 0.75% per year was applied to 2017 volumes. Looking at the past decade of traffic volumes along the US 101 corridor in the City of Salinas, the average growth was 0.5% annually. Therefore, it was assumed that an annual growth rate of 0.75% per year is conservative.

Caltrans also publishes an indexed table of factors to use in converting AADT values to weekday AM and PM peak hour volumes. This is done by identifying the percent distribution (D) of traffic in the northbound versus southbound direction of the freeway as well as the proportion of AADT traffic that occurs during the peak hour (K-factor). Using these two values, the peak hour segment volume is calculated as AADT*D*K for each study freeway segment.

Existing Conditions Field Review

A site visit in the study area was conducted on Tuesday August 13, 2019 from 4:30PM to 6:30PM to observe existing traffic conditions including vehicle queuing and parking, as well as pedestrian and bicycle circulation. The following was observed:

- The intersection of US 101 Northbound Ramps & Roy Diaz Street had very few vehicles traveling through it and experienced minimal queues. There is a sidewalk along the west side of Roy Diaz Street and a crosswalk along the US 101 Northbound Ramps.
- The intersection of Terven Avenue & Airport Boulevard / Southbound US 101 Ramps was observed to be operating at or above capacity with long queues at multiple approaches. Queues were observed along the Airport Boulevard US 101 overpass and the Southbound US 101 Off-Ramp in excess of 15 vehicles. Queues on the Southbound US 101 Off-Ramp did not spill onto the US 101 main line but did reduce the overall length for deceleration off the freeway. A very high occurrence of truck traffic was observed at this intersection. When semi-truck trailers performed left turn movements there was usually not enough room to perform the movement without oversteering on the part of the driver resulting in long clearance times for one truck to travel through the intersection. Pedestrian crossing is prohibited on the US 101 Ramp leg of this intersection requiring pedestrians to cross Terven Avenue instead. Crosswalk and intersection striping including stop bars are no longer visible at this intersection.
- The intersection of Roy Diaz Street & Airport Boulevard is a signalized T-intersection. No carryover queues were observed at this intersection from one signal cycle to the next. Pedestrian sidewalks are provided on the south side of Airport Boulevard and along the west side of Roy Diaz Street. Evidence of crosswalk striping exists but has been almost completely worn off by traffic and no longer is visible to traveling motorists.
- The intersection of Skyway Boulevard & Airport Boulevard experiences minimal queues at each stop-controlled approach. There are no pedestrian or bike facilities at this intersection.
- The intersection of Skyway Boulevard / Quilla Street & East Alisal Street experiences minimal queues at each approach of the roundabout at any given time during observation. Spillback from downstream intersections on Quilla Street was visible at the roundabout but never entered or affected roundabout operation. Pedestrian facilities including crosswalks, sidewalks and ADA ramps are in good conditions and clearly visible. Roadway striping for lanes and movement patterns in the roundabout is in good condition. No bicycles were observed using the roundabout.

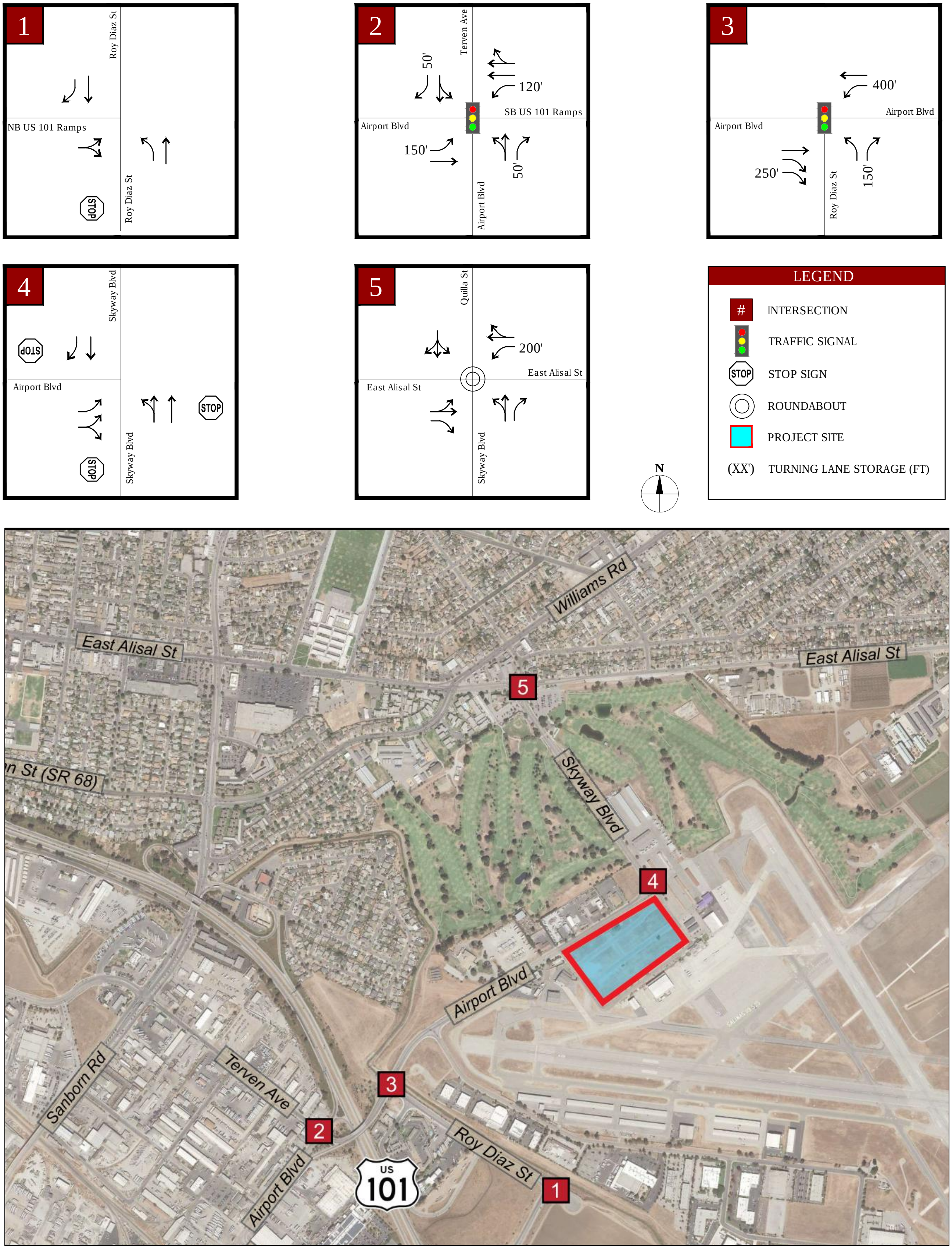

FIGURE 3
EXISTING CONDITIONS
LANE GEOMETRY AND TRAFFIC CONTROL

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SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

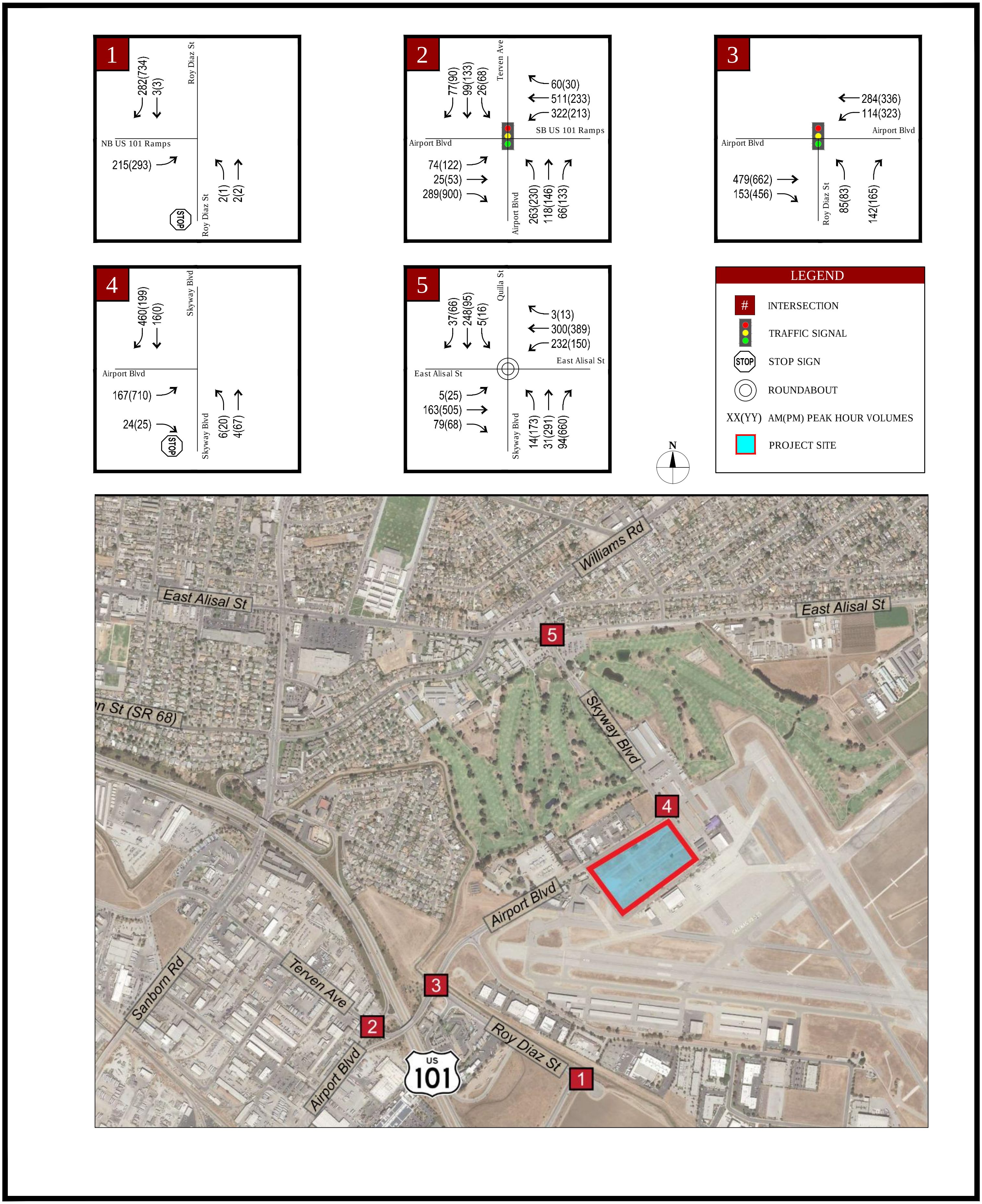

FIGURE 4
EXISTING CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES
SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

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Existing Transit Facilities

Monterey-Salinas Transit (MST) provides bus services throughout the greater Monterey and Salinas areas specifically providing bus service within the Project study area.

The ***MST Salinas - Airport Business Center Route 48*** extends from the Salinas Transit Center along East Alisal Street to the intersection of Skyway Boulevard / Quilla Street & East Alisal Street where it continues south along Skyway Boulevard before traveling west past the proposed Project site along Airport Boulevard. There are stops along this route just west of the proposed Project site on Airport Boulevard or north of the site on Skyway Boulevard. Service is provided every 90 minutes beginning in the morning at 7:30 AM and terminating at 6:00 PM.

Existing Pedestrian and Bicycle Facilities

The following sections describe pedestrian and bicycle facilities within the study area.

Pedestrians

Site observations in conjunction with published sidewalk conditions by the City of Salinas were used to assess the pedestrian conditions within the study area. Sidewalk access near the proposed Project site is limited to the north side of Airport Boulevard. Skyway Boulevard only has sidewalk and pedestrian facilities immediately surrounding the roundabout at East Alisal Street. There is little connectivity between sidewalks and crosswalks between Airport Boulevard and Skyway Boulevard. It is anticipated that with infill development in the airport area, including this development, a more connected sidewalk network will be constructed. The proposed Project study area is currently pedestrian prohibitive.

Bicycles

The City of Salinas provides a map of existing city bicycle facilities on their website under GIS resources. This map summarizes which roadways and paths serve cyclists and includes location and bike route class.

Class I facilities are paved bicycle paths that are physically separated from the vehicular travel lane. They typically follow waterways, parks, or ocean lines and do not necessarily run parallel to a roadway. No Class I facilities exist near the Project site (within ½ mile).

Class II facilities are striped bike lanes along the street. Class II bike facilities are provided near the Project site. The proposed Project site can be accessed along dedicated Class II bicycle facilities via Airport Boulevard, Skyway Boulevard, and East Alisal Street.

Class III bicycle facilities are bike routes denoted by signs that are shared with vehicles along the roadway. Moffett Street is approximately one-third mile away from the proposed Project site and is identified by the City of Salinas bikeways map as a Class III facility.

Class IV bicycle facilities are separated bikeways for the exclusive use of bicycles. The bikeway may be separated from the roadway by grade separation, flexible posts, inflexible posts, or on-street parking. These bikeways typically run parallel to or exist adjacent to a roadway. There are no class IV bicycle facilities within the study area.

Existing Level of Service

Traffic operations were evaluated at the study intersections based on existing conditions lane geometry, traffic control, and peak hour traffic volumes. HCM analysis results show that most of the study intersections currently operate at acceptable LOS during the AM and PM peak hours when measured against the maintaining agency's LOS standard with the following exceptions:

- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps operates at LOS E during the AM peak hour and LOS D during the PM peak hour. Long queues were observed in the northbound shared thru-left and the westbound left turn lanes exceeding current storage capacity. US 101 Southbound Off-Ramp queues currently exceed storage pocket capacity but do not spill onto the US 101 Southbound mainline.

Analysis results are presented in **Table 5** and Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on existing condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results and field observations, all study freeway segments currently operate at an acceptable LOS during existing conditions. Analysis results are presented in **Table 6** and HCS output sheets are provided in the **Appendix**.

Table 5 – Existing Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Existing Conditions							
					AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	4.4	-	A	-	3.0	-	A
	Worst Approach				*EB*	*10.3*	-	*B*	*EB*	*10.4*	-	*B*
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	57.8	-	E	-	49.4	-	D
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	16.8	-	B	-	40.1	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	12.9	-	B	-	23.3	-	C
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	4.9	0.392	A	-	9.4	0.647	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Intersections that operate below the maintaining agency's LOS standard are highlighted.
5. Roundabouts must not exceed a V/C of 0.85

Table 6 – Existing Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Existing Conditions					
				AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,489	20.9	C	2,721	23.2	C
			SB	1,876	15.6	B	1,643	13.7	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	1,795	15.0	B	1,962	16.4	B
			SB	1,352	11.3	B	1,185	9.9	A

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per mile per lane (pc/mi/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

3. PROPOSED PROJECT

The Project proposes to develop a 13.25-acre vacant site owned by the City of Salinas into industrial and commercial uses. The site is located on the northwest side of the Salinas Municipal Airport and bounded by Airport Boulevard to the north, Mortensen Avenue to the south, Skyway Boulevard to the east and Mercer Way to the west. The Project proposes to construct approximately 65,166 square feet of warehousing and 65,166 of light industrial land uses, in addition to relocating the public works building to the site from its existing location at the northeast corner of Work Street & John Street.

The property has good street access from all sides. Most traffic runs along Airport Boulevard, which connects US 101, west Salinas, east Salinas and the airport. Surface parking at city-prescribed numbers and spaces will be provided to accommodate the Project.

Trip Generation Estimates

Trip generation was developed for this Project using the *Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition (2017)* and driveway counts at the existing city public works facility. A trip is defined in *Trip Generation* as a single or one-directional vehicle movement with either the origin or destination at the Project site. In other words, a trip can be either “to” or “from” the site. In addition, a single customer visit to a site is counted as two trips (i.e., one to and one from the site).

For purposes of determining the worst-case impacts of the project, trip generation estimates were calculated for the AM peak hour (between 7:00AM to 9:00AM) and the PM peak hour (between 4:00PM to 6:00PM). While the Project itself may generate traffic during other times of the day (i.e. deliveries, service vehicles, etc.), the estimates presented in this section represent the worst-case scenario for traffic conditions within the study area.

Trip generation estimates are presented below for the existing public works building as well as the proposed Project.

Existing Public Works Building

The City of Salinas currently operates a public works facility to the west of the proposed Project site on the northwest corner of Work Street & John Street. This existing facility has three driveways that are used to access the site. It is assumed that the existing public works building will be approximately the same size once it is moved to its new location at the Project site. Driveway counts were performed at the existing public works facility on August 1, 2019 in the morning and evening to determine both the AM and PM peak hour trip generation for the site. The existing public works building generates 74 AM and 17 PM peak hour trips as shown in **Table 7**.

Project Trip Generation Estimates

The Project proposes to construct approximately 65,166 square feet of warehousing and 65,166 of light industrial land uses, in addition to relocating the public works site from its existing location at the northeast corner of the intersection of Work Street & John Street in the City of Salinas.

No land uses currently exist on the Project site and no trip credits are assumed in this analysis. Furthermore, internal capture, pass-by, and diverted trip reductions were not applied in this evaluation. Even though the public works yard is only a relocation, it is considered as a new project in this analysis, since the relocation distance is far enough to constitute a new project.

ITE land use code (LUC) 110 was used to estimate the Project trip generation for the 65,166 square feet of general light industrial uses. ITE LUC 150 was used to estimate the Project trips generation for the 65,166 square feet of warehousing uses. Existing conditions driveway counts of the three public works site driveways were used to estimate the Project trip generation of the City Public Works site.

Based on the Project description and ITE data and methodologies, the ***net new Project trip generation would be 1,214 daily trips, 153 AM peak hour trips (114 IN / 39 OUT) and 94 PM peak hour trips (20 IN / 74 OUT)***.

Table 7 shows trip generation estimates for buildout of the Project.

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Table 7 – Project Trip Generation

Land Use	ITE Land Use Code	Size	Unit	Daily		AM Peak Hour				PM Peak Hour			
				Rate	Trips	Rate	In	Out	Total	Rate	In	Out	Total
In and Out Distribution													
General Light Industrial	110				100%		88%	12%	100%		13%	87%	100%
Warehousing	150				100%		77%	23%	100%		27%	73%	100%
City Public Works Site					--		65%	35%	100%		29%	71%	100%
Proposed Project													
General Light Industrial[1]	110	65.166	KSF	4.96	324	0.70	40	6	46	0.63	5	36	41
Warehousing[2]	150	65.166	KSF	-	150	-	26	7	33	-	10	26	36
City Public Works Site[3]					740		48	26	74		5	12	17
Total Proposed Project Trips													
Total Proposed Buildout Trips					***1,214***		***114***	***39***	***153***		***20***	***74***	***94***

Notes:
1. ITE Code 110 Daily, AM, and PM peak trip generation based on ITE average rate.
2. ITE Code 150 Daily, AM, and PM peak trip generation based on ITE equations.
3. Based on peak period driveway counts collected August 1, 2019. Daily driveway count is not available. To estimate Public Works site daily trip generation, it was assumed that AM peak hour trips are 10% of the daily (daily = 74 / 0.10 = 740)
Source: Institute of Transportation Engineers (ITE) Trip Generation 10th Edition, 2017

Internal Capture reductions account for trips made internally within a proposed development and are typically considered for developments with complementary land uses – such as mixed-use developments. Because there are no complementary land uses for this development no internal capture trip reductions are assumed.

Pass-by Trip reductions account for trips that are already on the roadway network, traveling along the roadway directly adjacent to the proposed development and make a stop as they pass by the site. Pass-by trips are not considered new trips for proposed developments, rather, they are additional stops along a travelers' predetermined trip that would be made whether the development is constructed or not. ITE does not provide data or guidance justifying assumption of pass-by trip reductions for the Project land uses. Therefore, no pass-by trip reductions are assumed for this development, which is a conservative assumption.

Diverted Trip reductions account for trips that are already on the roadway network, traveling on the road network in the vicinity of the proposed development. These trips would detour from their typical travel route, travel to/from the proposed development.

Diverted trips are not considered new trips for proposed developments, rather, they are rerouted trips with additional stops along a travelers' predetermined trip that would be made whether the development is constructed or not. ITE does not provide data or guidance justifying assumption of diverted trip reductions for the Project land uses. Therefore, no diverted trip reductions are assumed for this development, which is a conservative assumption.

Distribution and Assignment

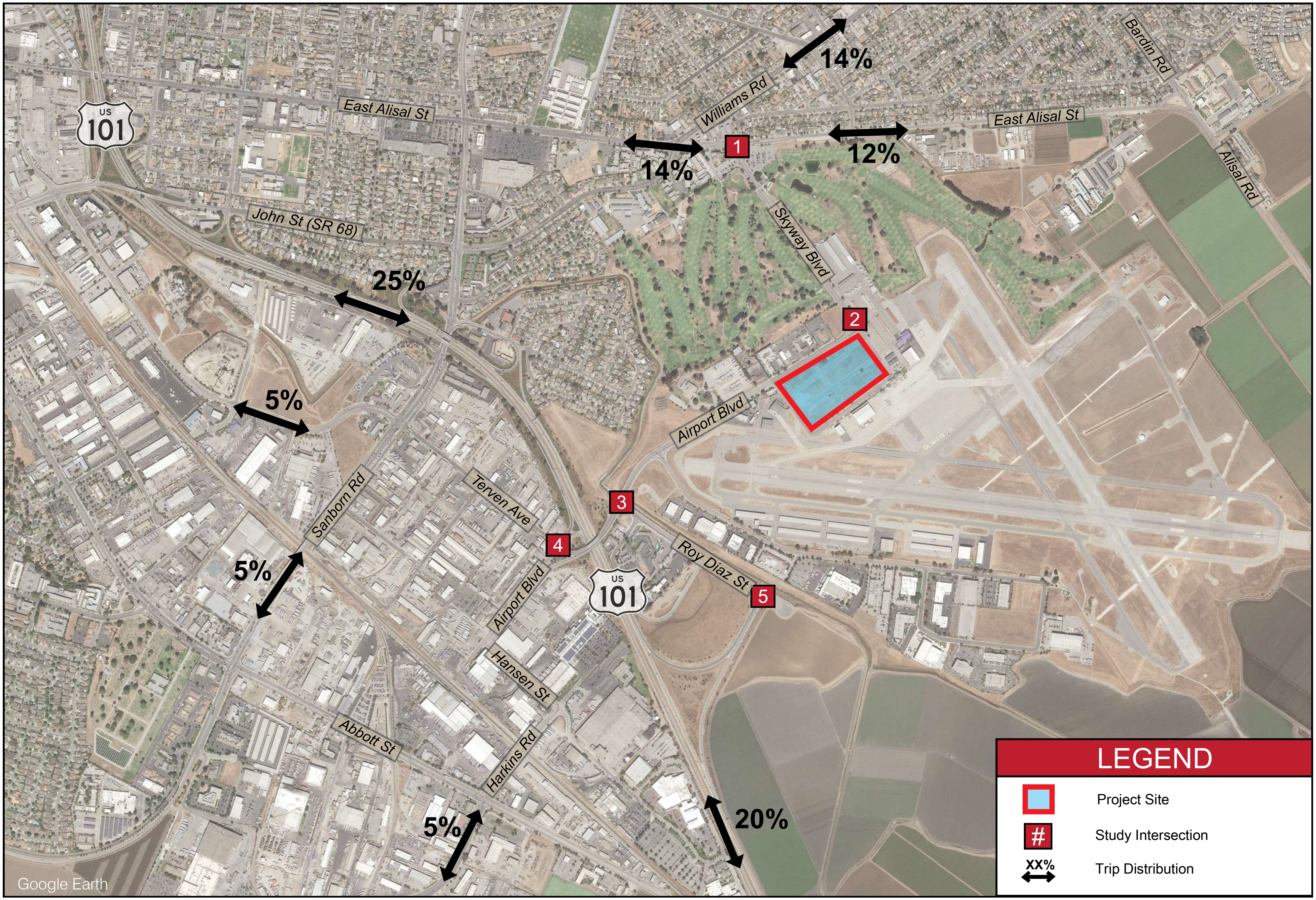
The proposed Project's trip distribution was estimated based on existing traffic patterns and knowledge of the study area. In addition, trip distribution patterns identified and assumed in the adjacent Salinas Travel Center TIA (2017) were incorporated.

Project trips will primarily consist of employees of the various businesses within the Project traveling to and from their homes. Other trips to and from the Project may include truck deliveries, city utility vehicles, or customers/clients of the industrial park. Traffic volumes are anticipated to increase primarily along Skyway Boulevard and Airport Boulevard due to the proposed Project. Internal Project circulation is anticipated to be facilitated by Mercer Way, Mortenson Avenue, Anderson Avenue, and Jeffery Avenue. The following trip distribution percentages were estimated based on existing traffic patterns and count data, as well as knowledge of the study area:

- 12% east along East Alisal Street
- 14% west along East Alisal Street
- 14% north along Quilla Street and Williams Road
- 25% north along US 101
- 20% south along US 101 (primarily from general light industrial and warehousing uses)
- 10% northwest along Terven Avenue
- 5% southwest along Airport Boulevard

Figure 5 illustrates the assumed trip distribution in relation to the Project site and study intersections.

The Project trip assignment – as shown in **Figure 6** – indicates the number of new motor vehicles that would be added to the study network once the Project is constructed.



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Airport Industrial Park TIA

Figure 5

Trip Distribution Map

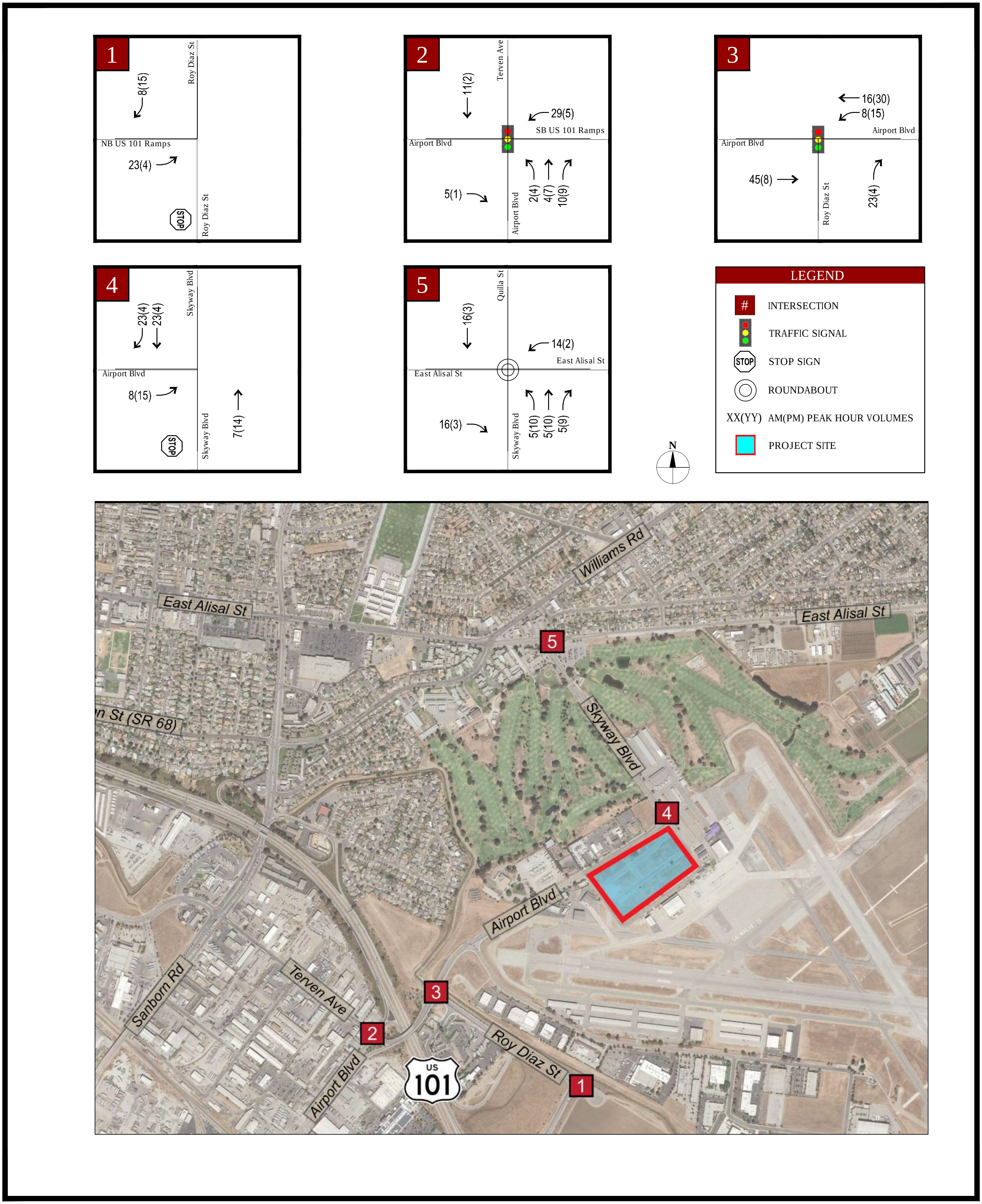

FIGURE 6
EXISTING CONDITIONS
PROJECT TRIP ASSIGNMENT

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4. EXISTING PLUS PROJECT CONDITIONS

Traffic operations were evaluated at the study intersections under Existing Plus Project conditions. **Figure 7** shows the Existing Plus Project peak hour vehicle volumes.

HCM analysis results show that most of the study intersections will operate at acceptable LOS during the AM and PM peak hours under Existing Plus Project conditions when measured against the maintaining agency's LOS standard, with the following exceptions:

- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps would operate at LOS E during the AM peak hour and LOS D during the PM peak hour.

Existing Plus Project analysis results are presented in **Table 8**. Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on existing condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under existing plus project conditions. Analysis results are presented in **Table 9** and HCS output sheets are provided in the **Appendix**.

Impacts and Mitigations

The following intersections are anticipated to be significantly impacted by the Project according to the state and city significance criteria:

<u>Airport Boulevard/Terven Avenue & US 101 Southbound On/Off-Ramps:</u>

Impact: This intersection currently operates at unacceptable LOS E conditions during the AM peak hour and LOS D conditions during the PM peak hour. Therefore, the addition of any Project traffic is considered a significant impact to be mitigated.

Mitigation: The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under Existing and Existing Plus Project conditions.The improvement has, however, substantial financial implications and the burden such that no single project can implement the improvement. Subsequently the City of Salinas will work with Caltrans District 5 staff to identify the improvements needed, including both long term and encroachment permit only improvements (shorter term), that would improve operations at the interchange to acceptable conditions. The City would allocate TIF fees towards the interchange improvement and focus on implementation of a suitable mitigation measure at the US 101 southbound ramps. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

The following short term (encroachment permit) projects have been identified at the intersection of <u>Airport Boulevard/Terven Avenue & US 101 Southbound On/Off Ramps:</u>

- Eliminate the Airport Boulevard slip ramp onto the Airport Boulevard overpass and convert the intersection into a typical intersection with dual right turn lanes on the eastbound Airport Boulevard approach.
- Restripe US 101 southbound off ramp approach from the main line to include a shared through and right turn lane, and dual left turn lanes.
- Widen the Airport Boulevard overpass approach to include a left turn pocket, a shared through, a right turn lane and two receiving lanes.
- Restripe the Terven Avenue approach to include one left-turn pocket and one shared thru-right lane.
- Eliminate split signal phasing

It is anticipated that the following mitigations will result in the intersection operating at LOS D during the AM peak hour and LOS C during the PM peak hour under existing plus project conditions. While the AM peak hour is still anticipated to operate below Caltrans LOS standards under these short-term mitigations, the overall control delay with these mitigations is reduced compared to Existing Conditions control delay eliminating any significant impacts from the Project.

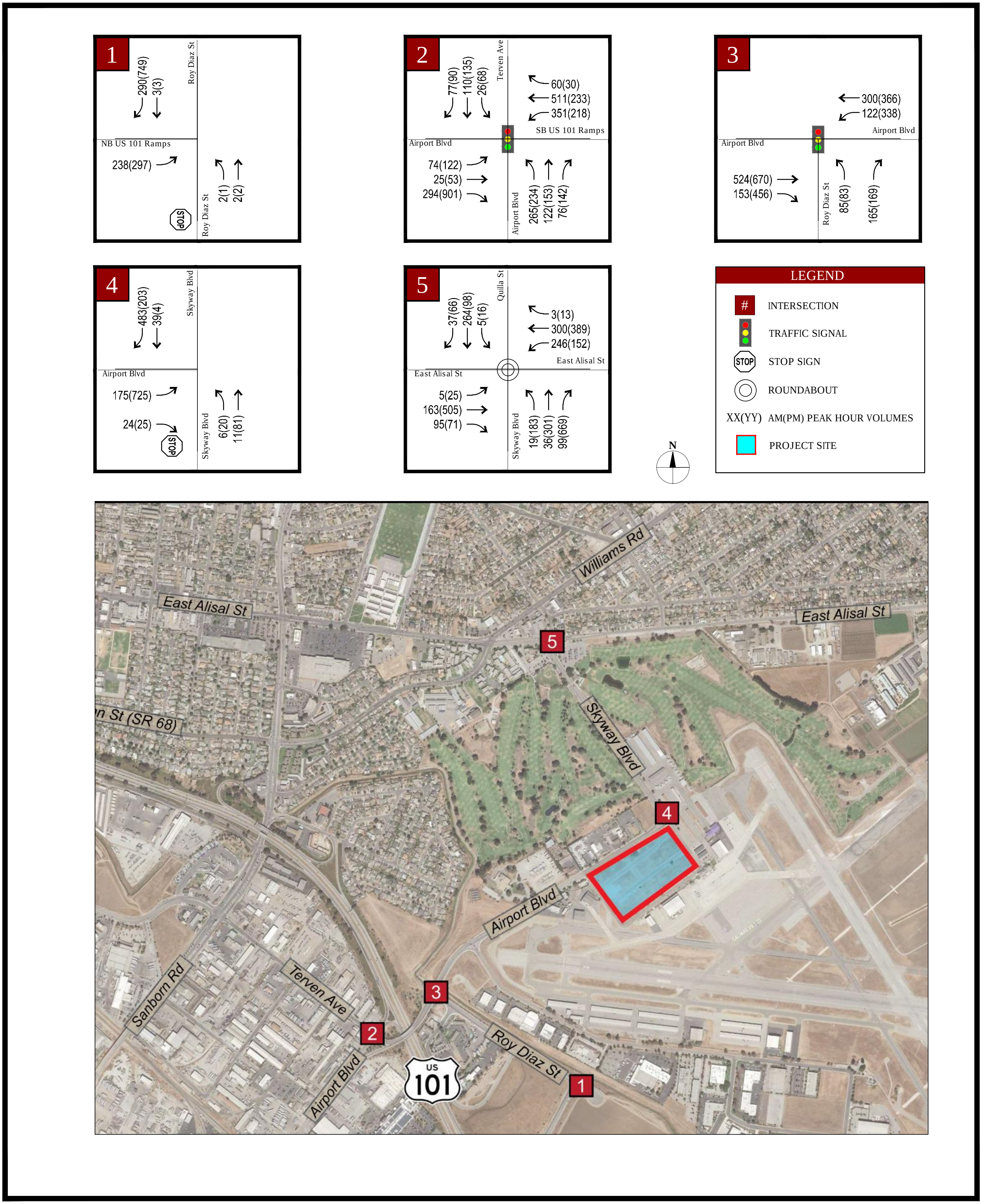

FIGURE 7
EXISTING PLUS PROJECT CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

Table 8 – Existing Plus Project Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Existing Conditions								Existing Plus Project Conditions							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	4.4	-	A	-	3.0	-	A	-	4.7	-	A	-	3.0	-	A
	Worst Approach				*EB*	*10.3*	-	*B*	*EB*	*10.4*	-	*B*	*EB*	*10.6*	-	*B*	*EB*	*10.5*	-	*B*
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	57.8	-	E	-	49.4	-	D	-	**63.8**	**-**	**E**	**-**	**50.4**	**-**	**D**
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	16.8	-	B	-	40.1	-	D	-	18.6	-	B	-	44.5	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	12.9	-	B	-	23.3	-	C	-	13.6	-	B	-	25.2	-	D
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	4.9	0.392	A	-	9.4	0.647	A	-	4.8	0.365	A	-	9.8	0.659	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
*5. Intersections that operate below the City's/State's LOS standard are highlighted and significant project impacts are shown in **bold.***
6. Roundabouts must not exceed a V/C of 0.85.

Table 9 – Existing Plus Project Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Existing Conditions						Existing Plus Project Conditions					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,489	20.9	C	2,721	23.2	C	2,497	21.0	C	2,736	23.3	C
			SB	1,876	15.6	B	1,643	13.7	B	1,905	15.9	B	1,648	13.7	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	1,795	15.0	B	1,962	16.4	B	1,818	15.1	B	1,966	16.4	B
			SB	1,352	11.3	B	1,185	9.9	A	1,362	11.4	B	1,194	9.9	A

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per mile per lane (pc/mi/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

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Table 10 – Existing Plus Project Conditions Intersection Level of Service Mitigated

#	Intersection	Maintaining Agency & Standard		Control Type	Existing Plus Project Conditions								Existing Plus Project Conditions Mitigated							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	4.7	-	A	-	3.0	-	A	-	4.7	-	A	-	3.0	-	A
	Worst Approach				*EB*	*10.6*	-	*B*	*EB*	*10.5*	-	*B*	*EB*	*10.6*	-	*B*	*EB*	*10.5*	-	*B*
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	**-**	**63.8**	**-**	**E**	**-**	**50.4**	**-**	**D**	-	54.6	-	D	-	20.9	-	C
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	18.6	-	B	-	44.5	-	D	-	18.6	-	B	-	44.5	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	13.6	-	B	-	25.2	-	D	-	13.6	-	B	-	25.2	-	D
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	4.8	0.365	A	-	9.8	0.659	A	-	4.8	0.365	A	-	9.8	0.659	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-way Stop Controlled, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
*5. Intersections that operate below City's/State LOS standard are highlighted and significant project impacts shown in **bold.***
6. Roundabouts must not exceed a V/C of 0.85.

5. BACKGROUND CONDITIONS

Background conditions describe the conditions when Project construction would be completed, and the Project open to the public. Traffic volumes, transportation network improvements, and operations that are anticipated to occur by the opening year of the Project were determined in consultation with the City of Salinas staff. The following development conditions are evaluated in this chapter:

- Background Conditions
- Background Plus Project Conditions

Proposed Transportation Improvements

Per discussions with City of Salinas staff, no near-term funded roadway or intersection improvements are expected to be constructed at transportation facilities that are studied in this TIA. Therefore, existing conditions geometries and intersection control are assumed for Background conditions.

Figure 8 illustrates the intersection geometry and traffic control assumed in the Background conditions analysis, which matches Existing conditions.

Traffic Volume Development

Background condition traffic volumes were calculated by identifying the approved, pending, and proposed development projects in the study area that have not yet been constructed. The development projects were provided by City of Salinas staff and identified due to their proximity to the study facilities and because it is anticipated that they would add traffic to the road network by the time the Airport Industrial Park project is completed.

The following development projects were considered in Background conditions volume assumptions:

- **Salinas Travel Center:** Development of a 64-acre area located between US 101 and Roy Diaz Street that includes a fueling station for trucks and automobiles, a convenience store, a fast food restaurant, a truck tire shop, and a 79-room hotel.

New traffic due to the approved, pending, and proposed development projects was estimated and added to the existing peak hour traffic volumes to determine Background conditions peak hour volumes, which are presented in **Figure 9**.

Background Conditions Level of Service

Background conditions intersection operations were evaluated at the study intersections based on described lane geometry, traffic control, and peak hour vehicle volumes. Two study intersections are anticipated to operate at unacceptable LOS as follows:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS F on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS E during the PM peak hour.

Freeway segment conditions were evaluated based on background condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results and field observations, all study freeway segments currently operate at an acceptable LOS during background conditions.

Analysis results are presented in **Table 11** and **Table 12** with Synchro and HCS output sheets provided in the **Appendix**.

Table 11 – Background Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Background Conditions							
					AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	E	SSSC	-	11.5	-	B	**-**	**24.3**	**-**	**C**
	Worst Approach				*EB*	*30.8*	-	*D*	***EB***	***102.7***	***-***	***F***
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	**-**	**98.3**	**-**	**F**	**-**	**69.3**	**-**	**E**
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	20.2	-	C	-	47.8	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	16.2	-	C	-	34.6	-	D
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	5.1	0.407	A	-	10.6	0.669	B

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
5. Intersections that operate below City's LOS standard are highlighted.
6. Roundabouts must not exceed a V/C of 0.85

Table 12 – Background Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Background Conditions					
				AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,558	21.6	C	2,799	24.0	C
			SB	2,050	17.1	B	1,717	14.3	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	2,069	17.2	B	2,062	17.2	B
			SB	1,407	11.7	B	1,332	11.1	B

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per mile per lane (pc/mi/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

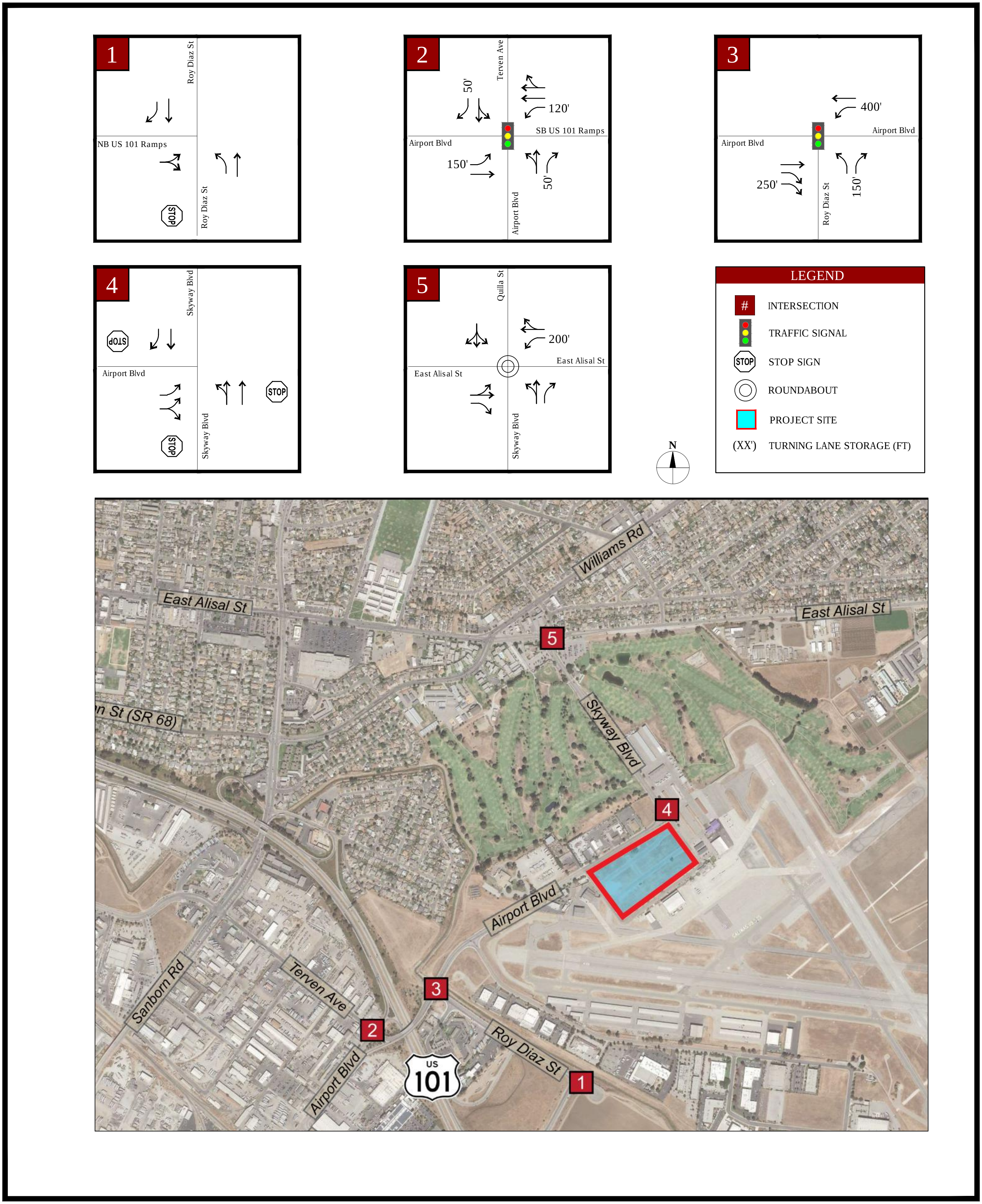

FIGURE 8

BACKGROUND CONDITIONS

LANE GEOMETRY AND TRAFFIC CONTROL

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SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

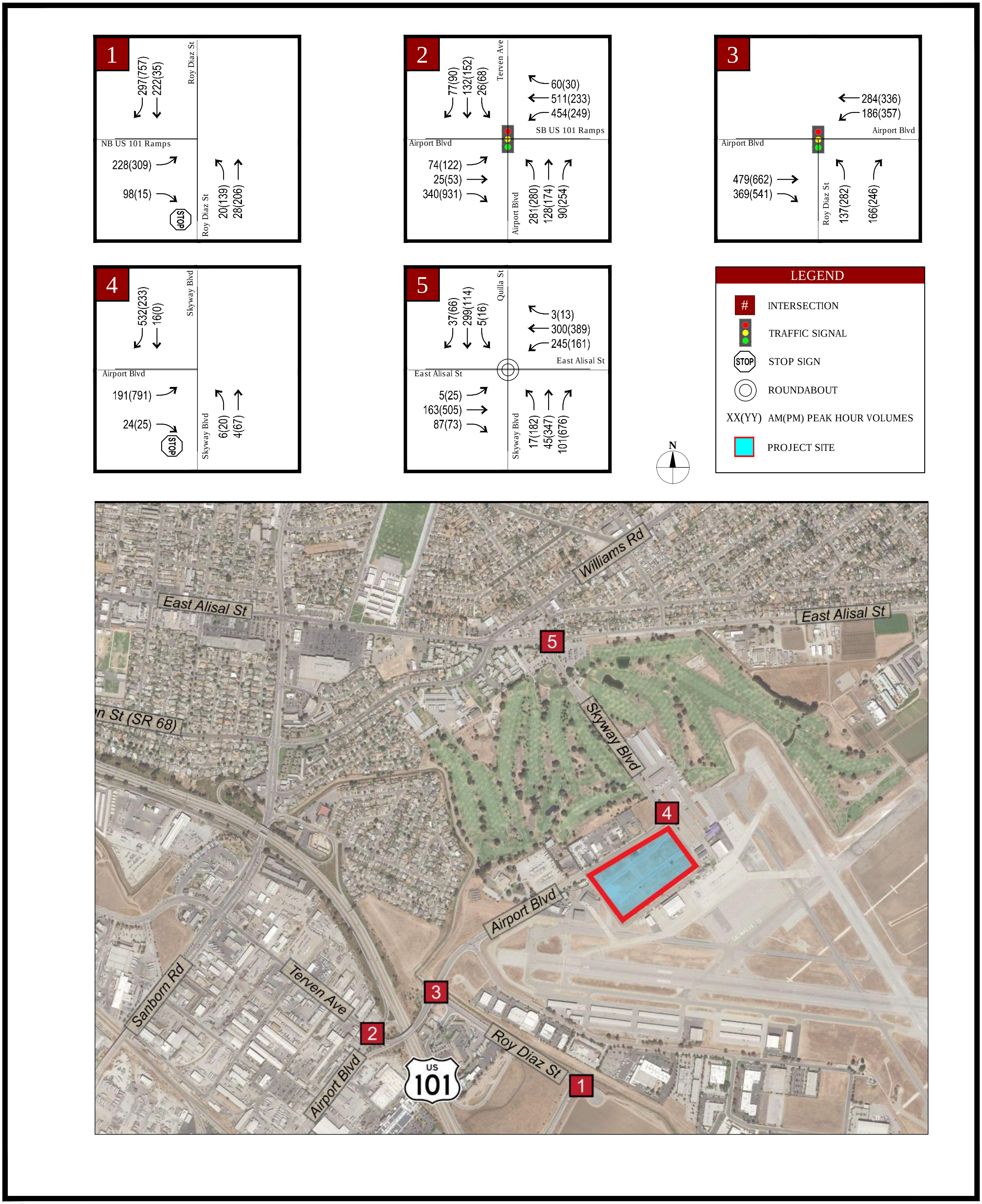

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FIGURE 9

BACKGROUND CONDITIONS

TRAFFIC TURNING MOVEMENT VOLUMES

SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

Background Plus Project Level of Service

Traffic operations were evaluated at the study intersections based on Background Plus Project conditions. Background Plus Project peak hour volumes are shown in **Figure 10.** Many study intersections are anticipated to operate at unacceptable LOS as follows:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS F on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS E during the PM peak hour.
- The intersection of Airport Boulevard & Skyway Boulevard is anticipated to operate at unacceptable LOS E during the PM peak hour under Background Plus Project conditions.

Background Plus Project analysis results are summarized in **Table 13**. Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on Background condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under Background Plus Project conditions. Analysis results are presented in **Table 14** and HCS output sheets are provided in the **Appendix**.

Impacts and Mitigations

The following intersections are anticipated to be significantly impacted by the Project according to the state and city significance criteria:

<u>Roy Diaz Street & US 101 Northbound Ramps:</u>

Impact: Under Background conditions this intersection is anticipated to operate under LOS F during the PM peak hour. Therefore, the addition of any project traffic is considered a significant impact to be mitigated.

Mitigation: The Salinas Travel Center TIA (2017) recommends this intersection be signalized as a mitigation to its project traffic to be paid for by the Travel Center project. It is anticipated that with a signal, this intersection would operate at acceptable LOS C during PM peak hour under background plus project conditions eliminating any significant project impacts.

The Salinas Travel Center TIA establishes that there may be two phases of development. The Salinas Travel Center TIA finds that all of phase 1 development could be constructed without having a significant impact at this intersection. Therefor the conditions of approval for the travel center does not require mitigation at this intersection until phase 2 development of the Salinas Travel Center TIA. A sensitivity analysis (Appendix J) was performed at this intersection to determine if an impact may occur at this intersection under a background condition with only Travel Center Phase 1 development and without constructing travel center mitigations. The sensitivity analysis shows that the Project and the Travel Center Phase 1 development can occur without having a significant impact at this intersection.

Airport Boulevard/Terven Avenue & US 101 Southbound On/Off Ramps:

Impact: Under Background conditions this intersection operates at unacceptable LOS F and LOS E during the AM and PM peak hours, respectively. Therefore, the addition of any project traffic is considered a significant impact to be mitigated.

Mitigation: The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard. Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under existing and plus project conditions. Because this project is included in the city's TFO, payment of traffic impact fees will mitigate the project impact at this intersection. The improvement has however substantial financial implications and the burden such that no single project can implement the improvement. Subsequently the City of Salinas will work with CaltransD5 staff to identify the improvements needed, including both long term and encroachment permit only improvements (shorter term), that would improve operations at the interchange to acceptable conditions. The City would allocate TIF fees towards the interchange improvement and focus on implementation of a suitable mitigation measure at the southbound ramps. The recently approved Travel Center study has also identified the impact and the applicant will also contribute towards the improvement through payment of the City TIF.

The following short term (encroachment permit) projects have been identified at the Airport Boulevard/Terven Avenue & Us 101 Southbound On/Off Ramps:

- Eliminate the Airport Boulevard slip ramp onto the Airport Boulevard overpass and convert the intersection into a typical intersection with dual right turn lanes on the eastbound Airport Boulevard approach.
- Restripe US 101 southbound off ramp approach from the main line to include a shared through and right turn lane, and dual left turn lanes.
- Widen the Airport Boulevard overpass approach to include a left turn pocket, a shared through, a right turn lane and two receiving lanes.
- Restripe the Terven Avenue approach to include one left-turn pocket and one shared thru-right lane.
- Eliminate split signal phasing

It is anticipated that this mitigation will result in improved intersection operations at LOS E and LOS D during the AM and PM peak hours under Background Plus Project conditions. While the AM and PM peak hours are still anticipated to operate below Caltrans LOS standards under these short-term mitigations, the overall control delay with these mitigations is reduced compared to Background Conditions control delay eliminating any significant impacts from the Project.

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Airport Boulevard & Skyway Boulevard:

The Airport Boulevard & Skyway Boulevard intersection is anticipated to operate at an unacceptable LOS E during the PM peak hour under Background Plus Project conditions. The addition of Project traffic causes the unsignalized intersection to operate below the City's LOS standard until a signal is installed. A signal will be installed at this intersection as part of the Travel Center's mitigations prior to completion of Travel Center construction.

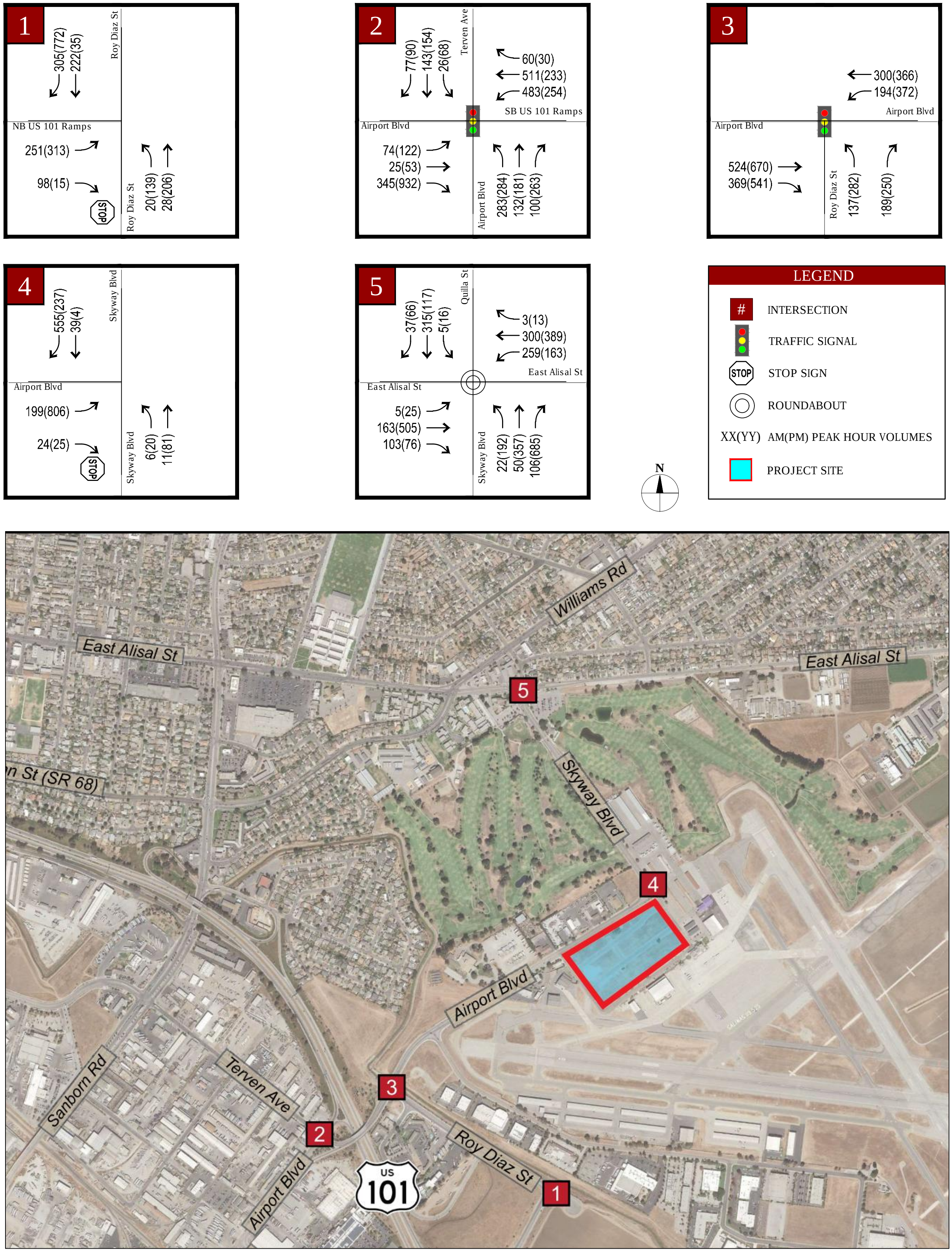

FIGURE 10
BACKGROUND PLUS PROJECT CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

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SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

Table 13 – Background Plus Project Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Background Conditions								Background Plus Project Conditions							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	E	SSSC	-	11.5	-	B	-	24.3	-	C	-	13.9	-	B	**-**	**25.9**	**-**	**D**
	Worst Approach				*EB*	*30.8*	-	*D*	*EB*	*102.7*	-	*F*	*EB*	*36.3*	-	*E*	***EB***	***110.2***	**-**	***F***
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	98.3	-	F	-	69.3	-	E	**-**	**111.2**	**-**	**F**	**-**	**72.7**	**-**	**E**
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	20.2	-	C	-	47.8	-	D	-	22.2	-	C	-	50.5	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	16.2	-	C	-	34.6	-	D	-	17.8	-	C	**-**	**38.1**	**-**	**E**
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	5.1	0.407	A	-	10.6	0.669	B	-	5.3	0.431	A	-	11.0	0.694	B

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
5. Intersections that operate below City/State LOS standard are highlighted and significant project impacts shown in ***bold.***
6. Roundabouts must not exceed a V/C of 0.85

Table 14 – Background Plus Project Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Background Conditions						Background Plus Project Conditions					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,558	21.6	C	2,799	24.0	C	2,566	21.7	C	2,814	24.1	C
			SB	2,050	17.1	B	1,717	14.3	B	2,079	17.3	B	1,722	14.4	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	2,069	17.2	B	2,062	17.2	B	2,092	17.4	B	2,066	17.2	B
			SB	1,407	11.7	B	1,332	11.1	B	1,417	11.8	B	1,341	11.2	B

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per hour per lane (pc/hr/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

Table 15 – Background Plus Project Conditions Intersection Level of Service Mitigated

#	Intersection	Maintaining Agency & Standard		Control Type	Background Plus Project Conditions								Background Plus Project Conditions Mitigated							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC/ Signal[7]	-	13.9	-	B	**-**	**25.9**	**-**	**D**	-	18.8	-	B	-	25.4	-	C
	Worst Approach				*EB*	*36.3*	-	*E*	***EB***	***110.2***	**-**	***F***	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	**-**	**111.2**	**-**	**F**	**-**	**72.7**	**-**	**E**	-	65.6	-	E	-	35.4	-	D
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	20.2	-	C	-	47.8	-	D	-	20.2	-	C	-	47.8	-	D
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC/ Signal[7]	-	17.8	-	C	**-**	**38.1**	**-**	**E**	-	6.0	-	A	-	6.2	-	A
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	5.3	0.431	A	-	11.0	0.694	B	-	5.3	0.431	A	-	11.0	0.694	B

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
*5. Intersections that operate below City's/State LOS standard are highlighted and significant project impacts shown in **bold.***
6. Roundabouts must not exceed a V/C of 0.85
7. Control type is a signal for the mitigated condition

6. CUMULATIVE CONDITIONS

Traffic operations were evaluated for the following cumulative scenarios:

- Cumulative (2040) Conditions
- Cumulative (2040) Plus Project Conditions

Cumulative Transportation Network Improvements

Based on City of Salinas TFO and discussions with City staff, it was assumed that no capacity improvements will be complete at any of the study intersections included in this study under Cumulative Conditions. However, the planned US 101 / Harris Road interchange, which is assumed to be built by the year 2035 is anticipated to alter traffic patterns by shifting some traffic from Airport Boulevard and Sanborn Road interchanges as well as the Blanco Road / Sanborn Road corridor to the new interchange. This improvement is expected to reduce traffic volumes along Airport Boulevard by approximately 25% compared to no interchange conditions.

Figure 11 illustrates the intersection geometry and traffic control used in the Cumulative conditions analysis, which are the same as Existing and Background geometries and capacities.

Cumulative Volumes

Cumulative volume growth in the study area was determined from discussion with City of Salinas staff and based on the Association of Monterey Bay Area Government (AMBAG) projected traffic volume model. In addition, volumes presented in the Travel Center TIA (2017) were considered and incorporated into intersection turning movement calculations. Calibrated link level volumes were converted to intersection turning movement counts based on existing turning movement distribution.

Cumulative peak hour traffic volumes are shown in **Figure 12**.

Cumulative Level of Service

Traffic operations were evaluated at the study intersections based on Cumulative lane geometry, traffic control, and peak hour vehicle volumes as shown in **Figure 11** and **Figure 12**. All intersections are anticipated to operate at acceptable LOS under Cumulative conditions except for:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS F on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS D during the PM peak hour.

Analysis results are presented in **Table 16** and Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on existing condition freeway geometry (no assumed improvements), speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under Cumulative conditions except for Northbound US 101 between Fairview Avenue and Airport Boulevard which is anticipated to operate at LOS D during the PM peak hour. Analysis results are presented in **Table 17** and HCS output sheets are provided in the **Appendix**.

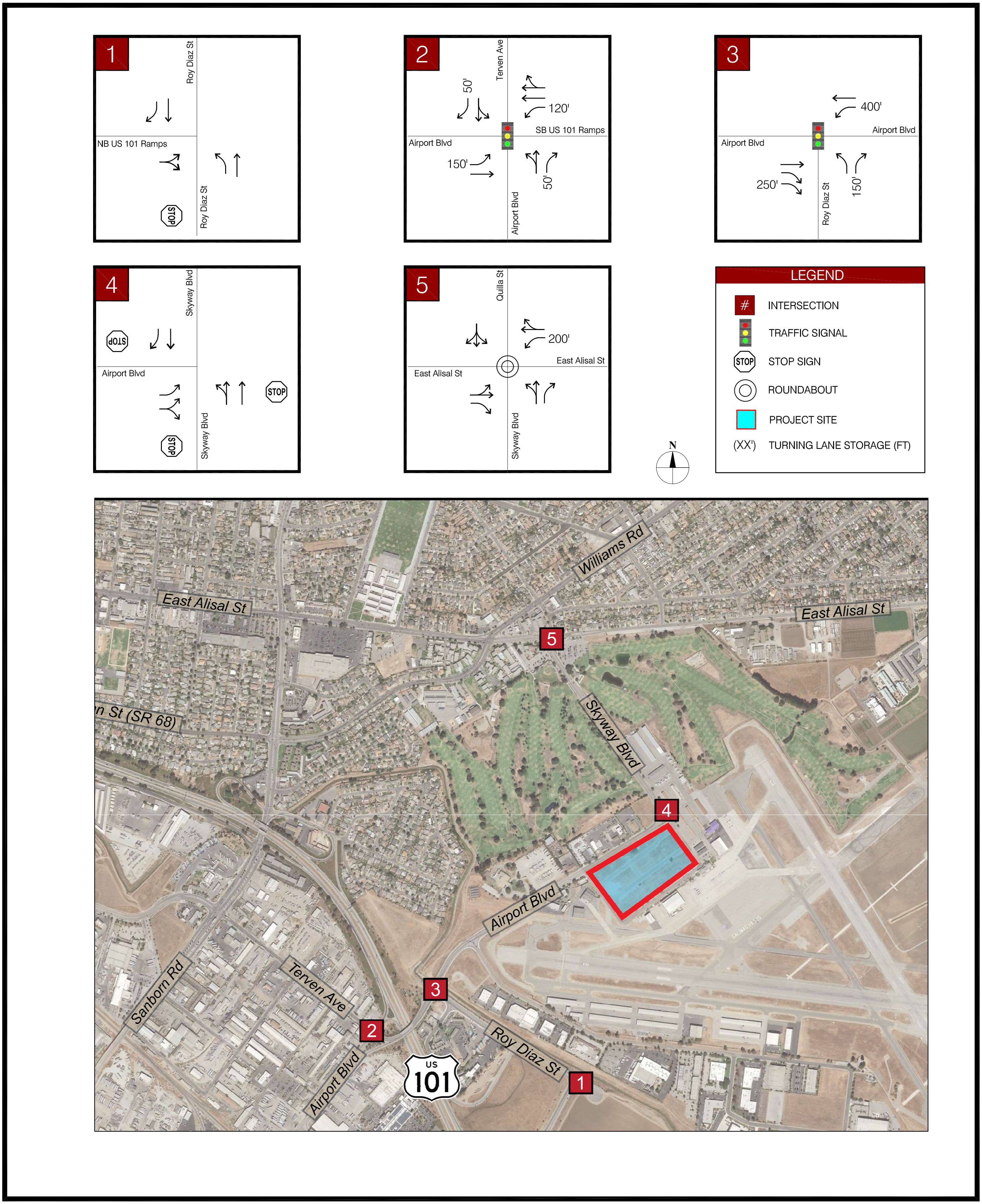

FIGURE 11
CUMULATIVE CONDITIONS
LANE GEOMETRY AND TRAFFIC CONTROL

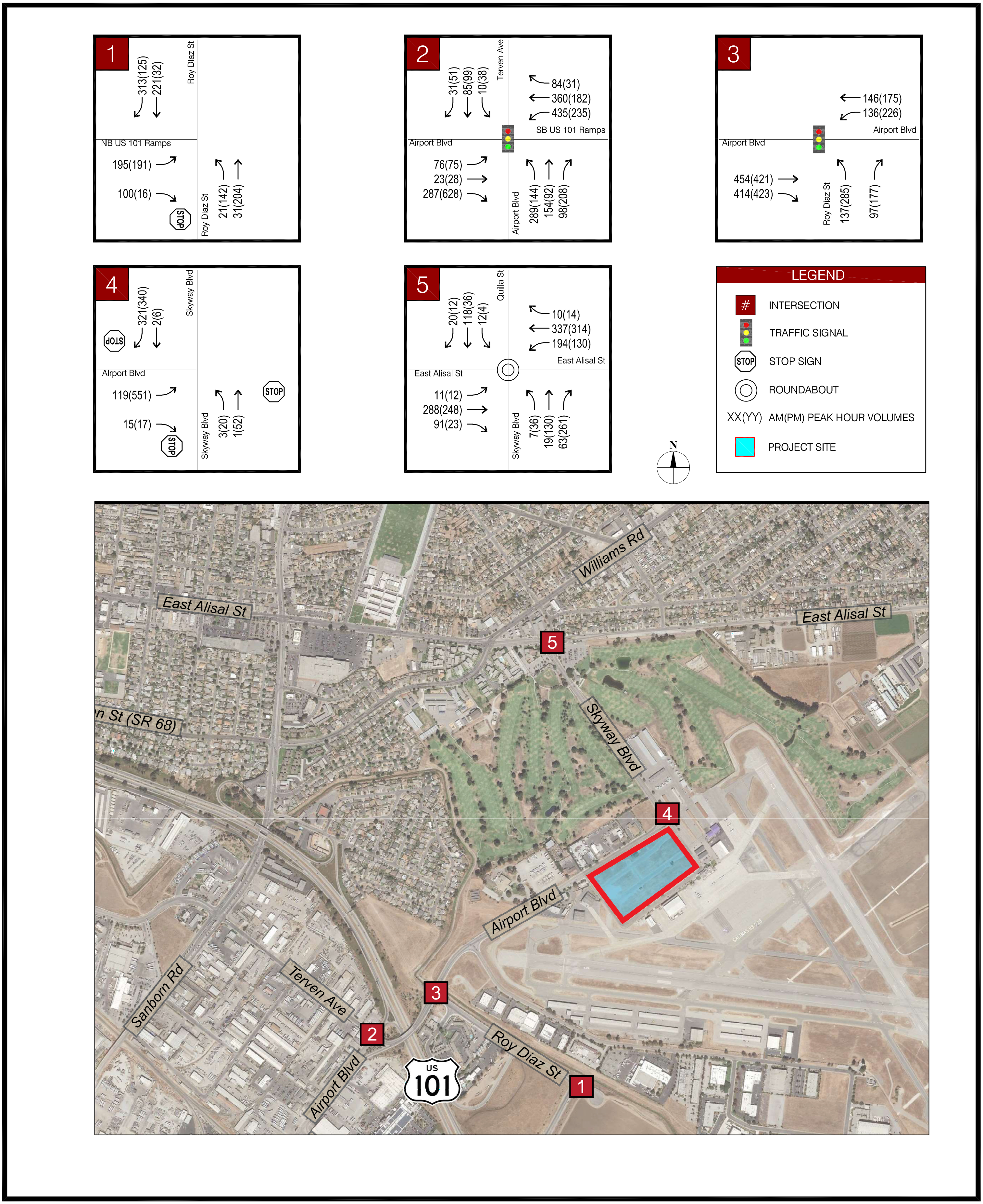

FIGURE 12
CUMULATIVE CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

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SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

Table 16 – Cumulative Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Cumulative Conditions							
					AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	8.9	-	A	-	8.8	-	A
	Worst Approach				*EB*	*25.8*	-	*D*	*EB*	*23.8*	-	*C*
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	105.6	-	F	-	42.4	-	D
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	16.4	-	B	-	33.8	-	C
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	9.7	-	A	-	17.7	-	C
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	8.1	0.507	A	-	7.5	0.384	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
5. Intersections that operate below City/State LOS standard are highlighted.
6. Roundabouts must not exceed a V/C of 0.85

Table 17 – Cumulative Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Cumulative Conditions					
				AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,912	25.2	C	3,184	28.5	D
			SB	2,195	18.3	C	1,923	16.0	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	2,100	17.5	B	2,295	19.2	C
			SB	1,582	13.2	B	1,386	11.6	B

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per mile per lane (pc/mi/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

Cumulative Plus Project Intersection and Freeway Level of Service

Traffic operations were evaluated at the study intersections based on Cumulative Plus Project conditions. Cumulative Plus Project peak hour vehicle volumes are shown in **Figure 13**. All intersections are anticipated to operate at acceptable LOS under Cumulative Plus Project conditions except for:

- The intersection of Roy Diaz Street & US 101 Northbound Ramps is anticipated to operate at LOS D on the eastbound approach during PM peak hours.
- The intersection of Airport Boulevard / Terven Avenue & US 101 Southbound On/Off Ramps is anticipated to operate at LOS F during the AM peak hour and LOS D during the PM peak hour.

Cumulative Plus Project analysis results are summarized in **Table 18**. Synchro output sheets are provided in the **Appendix**.

Freeway segment conditions were evaluated based on cumulative condition freeway geometry, speed, and traffic volumes. Based on HCM analysis results, all study freeway segments are anticipated to operate at an acceptable LOS under Cumulative conditions except for Northbound US 101 between Fairview Avenue and Airport Boulevard which is anticipated to operate at LOS D during the PM peak hour. Analysis results are presented in **Table 19** and HCS output sheets are provided in the **Appendix**.

Impacts and Mitigations

The following intersections are anticipated to be significantly impacted by the Project according to the state and city significance criteria:

<u>Roy Diaz Street & US 101 Northbound Ramps:</u>

Impact: Under Cumulative conditions this intersection is anticipated to operate under LOS D during the AM peak hour. Therefore, the addition of any project traffic is considered a significant impact to be mitigated.

Mitigation: The Salinas Travel Center TIA (2017) recommends this intersection be signalized as a mitigation to its project traffic to be paid for by the Travel Center project. It is anticipated that with a signal, this intersection would operate at acceptable LOS B during AM peak hour under Cumulative plus project conditions eliminating any significant project impacts.

<u>Airport Boulevard/Terven Avenue & US 101 Southbound On/Off-Ramps:</u>

Impact: This intersection operates at unacceptable LOS F conditions during the AM peak hour and LOS D during the PM peak hour under cumulative conditions. Therefore, the addition of any project traffic is considered a significant impact to be mitigated.

Mitigation: The new Airport Boulevard Interchange project should be constructed. The City of Salinas 2010 Traffic Improvement Program (TIP) and Traffic Fee Ordinance (TFO) identifies the Airport Boulevard. Interchange Project (#38) for future improvements. This mitigation would improve the operation of the intersection to acceptable LOS under cumulative plus project conditions. Because this project is included in the city's TFO, payment of traffic impact fees will mitigate the project impact at this intersection.

It is anticipated that after the completion of the Airport Boulevard Interchange Project the study intersection will operate at LOS C during the AM and PM peak hours under Cumulative Plus Project conditions.

<u>Northbound US 101 between Fairview Avenue and Airport Boulevard</u>:

The City of Salinas TFO identifies a US 101 widening project along Northbound US 101 between Fairview Avenue and Airport Boulevard which would increase service to 3 lanes. This lane would improve the segment LOS to acceptable standards and result in no significant project impacts. As this project is included in the City of Salinas TFO and the TAMC regional TIF program, payment of traffic impact fees is an appropriate mitigation for the proposed project as the City of Salinas continues to work with Caltrans in implementing this improvement.

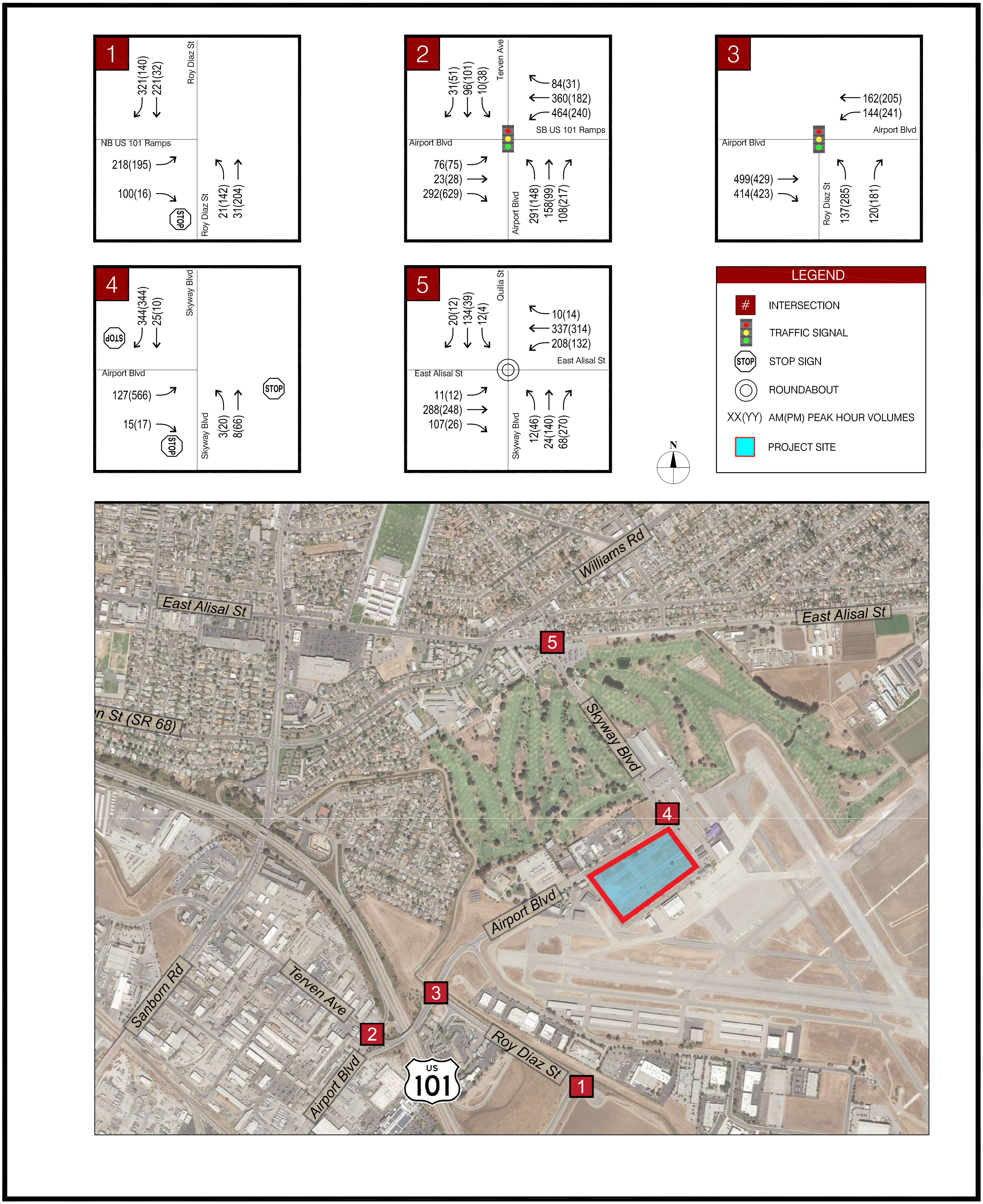

FIGURE 13
CUMULATIVE PLUS PROJECT CONDITIONS
TRAFFIC TURNING MOVEMENT VOLUMES

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SALINAS AIRPORT INDUSTRIAL PARK TRAFFIC IMPACT STUDY

Table 18 – Cumulative Plus Project Conditions Intersection Level of Service

#	Intersection	Maintaining Agency & Standard		Control Type	Cumulative Conditions								Cumulative Plus Project Conditions							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS	Movement	Delay[2]	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	C	SSSC	-	8.9	-	A	-	8.8	-	A	-	10.6	-	B	-	8.9	-	A
	Worst Approach				*EB*	*25.8*	*-*	*D*	*EB*	*23.8*	*-*	*C*	**EB**	**29.8**	**-**	**D**	EB	24.4	-	C
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	105.6	-	F	-	42.4	-	D	**-**	**119.1**	**-**	**F**	**-**	**42.7**	**-**	**D**
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	16.4	-	B	-	33.8	-	C	-	17.1	-	B	-	34.9	-	C
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	9.7	-	A	-	17.7	-	C	-	10.0	-	A	-	18.8	-	C
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	8.1	0.507	A	-	7.5	0.384	A	-	7.5	0.446	A	-	7.7	0.392	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, AWSC = All-Way Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
5. Intersections that operate below City/State LOS standard are highlighted and significant project impacts are shown in ***bold.***
6. Roundabouts must not exceed a V/C of 0.85

Table 19 – Cumulative Plus Project Conditions Freeway Segment Level of Service

US 101 Segment	Maintaining Agency & Standard		Direction	Cumulative Conditions						Cumulative Plus Project Conditions					
				AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
				Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS	Volume	Density[1]	LOS
Fairview Ave – Airport Blvd	Caltrans	C	NB	2,912	25.2	C	**3,184**	**28.5**	**D**	2,920	25.3	C	**3,199**	**28.6**	**D**
			SB	2,195	18.3	C	1,923	16.0	B	2,224	18.6	C	1,928	16.1	B
Airport Blvd – Roy Diaz St	Caltrans	C	NB	2,100	17.5	B	2,295	19.2	C	2,123	17.7	B	2,299	19.2	C
			SB	1,582	13.2	B	1,386	11.6	B	1,592	13.3	B	1,395	11.6	B

Notes:
1. Freeway segment LOS is based on density measures in passenger cars per hour per lane (pc/hr/ln).
2. Analysis performed using HCM 6th Edition methodologies.
3. Caltrans LOS standard is C/D.

Table 20 – Cumulative Plus Project Conditions Intersection Level of Service Mitigated

#	Intersection	Maintaining Agency & Standard		Control Type	Cumulative Plus Project Conditions								Cumulative Plus Project Conditions Mitigated							
					AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
					Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS	Movement	Delay	V/C	LOS
1	Roy Diaz St & US 101 NB Ramps	Caltrans	E	SSSC/Signal[7]	-	10.6	-	C	-	8.9	-	A	-	12.8	-	B	-	8.1	-	A
	Worst Approach				**EB**	**29.8**	**-**	**D**	EB	24.4	-	C	-	-	-	-	-	-	-	-
2	Airport Blvd / Terven Ave & US 101 SB On/Off Ramp	Caltrans	C	Signal	-	119.1	-	F	-	42.7	-	D	-	27.9	-	C	-	30.1	-	C
3	Airport Boulevard & Roy Diaz Street	Salinas	D	Signal	-	17.1	-	B	-	34.9	-	C	-	17.1	-	B	-	34.9	-	C
4	Airport Blvd & Skyway Blvd	Salinas	D	AWSC	-	10.0	-	A	-	18.8	-	C	-	10.0	-	A	-	18.8	-	C
5	E. Alisal St & Quilla St / Skyway Blvd	Salinas	D	RAB	-	7.5	0.446	A	-	7.7	0.392	A	-	7.5	0.446	A	-	7.7	0.392	A

Notes:
1. Analysis performed using HCM 6th Edition methodologies.
2. Delay indicated in seconds/vehicle.
3. Signal = Signal Control, SSSC = Side Street Stop Control, RAB = Roundabout
4. Caltrans LOS standard is C/D, Salinas LOS standard is D.
5. Intersections that operate below City's/State LOS standard are highlighted and significant project impacts are shown in ***bold.***
6. Roundabouts must not exceed a V/C of 0.85
7. Control type is a signal for the mitigated condition

7. SITE CIRCULATION AND ACCESS

The Project was evaluated to determine if it would adversely affect adopted policies, plans, or programs supporting access management, site circulation and alternative transportation (e.g., bus turnouts, bicycle racks) or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by transit, bicycle, or pedestrian facilities and plans.

Access Management

To facilitate reduced delays, increased safety and to conform to good access management practice the Project should limit driveway access to Skyway Blvd, Mercer Way or Mortensen Avenue. Internal site circulation may be facilitated by an internal roadway network dividing the Public Works Yard form other Project uses. Access from the Project directly onto Airport Boulevard is discouraged as this would introduce additional conflict points to Airport Boulevard and decrease overall safety on the city arterial. Access from Mercer Way onto Airport Boulevard should include a left turn pocket or two-way left-turn lane to help reduce delay.

Pedestrian Access

The Project will construct ADA compliant sidewalk and ramps along its frontage along Airport Boulevard, Mercer Way, Skyway Boulevard, and Mortensen Avenue. New sidewalk constructed along Airport Boulevard would connect to the existing sidewalk and marked crosswalk west of the Project site and provide access to the nearby MST bus stop at Airport / Clinica de Salud, which currently serves Route 48.

With construction of new sidewalk along the Project frontages, employees/staff and visitors that choose to walk to the Project site would not be significantly impacted based on pedestrian mobility, accessibility, or safety (at the Project site) once these frontage improvements are constructed.

Bicycle Access

The existing Class II bike lane along both sides of Airport Boulevard would remain in place with construction of the Project. Additionally, it is anticipated that the Project will provide bike parking per City standards.

Transit Access

As discussed in **Existing Transit Facilities**, an MST bus stop serving Route 48 is located on the south side of Airport Boulevard less than 100 feet west of the Project site. The stop is located well within the typical maximum ¼ mile walking distance assumed for transit use. Additionally, as discussed in **Pedestrian Access** above, the Project would construct ADA-compliant pedestrian facilities including sidewalk, ramps and a marked crosswalk along the Project frontage and connecting to existing sidewalk west of the site, which would provide a route for pedestrians to walk to access the existing MST stop.

According to 2013-2017 U.S. Census data table S0801, approximately 0.8% of City of Salinas residents use public transit to travel to work. This typically represents the highest level of transit ridership during the day, with other periods being lower. If it is conservatively assumed (from the standpoint of transit demand) that 0.8% of new trips to the Project site use transit during the peak hours of the day, resulting in up to 2 passengers during the weekday AM peak hour and 1 passenger during the PM peak hour, which would have a negligible adverse impact on transit mobility, accessibility, or safety.

Summary of Potential Impacts

This chapter of the report evaluated pedestrian, bicycle, and transit networks in the Project vicinity and whether significant impacts would be caused by construction of the proposed Project. As discussed in this chapter, the Project proposes to construct pedestrian facility improvements, in compliance with adopted City standards, that would improve pedestrian mobility within the City. Therefore, the Project's impact on pedestrian, bicycle, and/or transit facilities would be less than significant.

8. TRAFFIC IMPACT FEES

Municipal agencies can put traffic impact fee (TIF) or traffic mitigation fee programs in place as an additional funding source for new roads and improvements to existing roads (not road maintenance though). These fees are typically levied based upon trip generation estimates for new developments.

The City of Salinas does have a TIF program for Projects to pay into, therefore, the proposed Project is responsible for TIF payments as outlined in the City of Salinas TFO. Developments must pay the current rate of $390 per daily trip as outlined in the annually adjusted traffic fee schedule. The total fee for the proposed project generating 1,214 daily trips is $473,460. The contribution to this fee by project land use is shown in **Table 21.**

Table 21 – Salinas Transportation Impact Fee

Land Use	Daily Trip Generation	Rate per Trip	Fee
General Light Industrial	324	$390	$126,360
Warehousing	150	$390	$58,500
City Public Works Site	740	$390	$288,600
		Total Fee:	***$473,460***

The Transportation Agency for Monterey County (TAMC) also has a TIF program for Projects to pay into, therefore, the proposed Project is responsible for TIF payments as outlined in the Regional Development Impact Fee Program Nexus Study Update (2018). Salinas developments must pay the rate of $346 per daily trip. The total fee for the proposed project generating 1,214 daily trips is $420,044. The contribution to this fee by project land use is shown in **Table 22.**

Table 22 – TAMC Regional Development Impact Fee

Land Use	Daily Trip Generation	Rate per Trip[1]	Fee
General Light Industrial	324	$346	$112,104
Warehousing	150	$346	$51,900
City Public Works Site	740	$346	$256,040
		Total Fee:	***$420,044***

1. From Table 1. 2018 RDIF Rate Schedule in the Final 2018 TAMC RDIF Nexus Study Update

APPENDIX

A. EXISTING CONDITIONS TRAFFIC COUNTS

B. EXISTING CONDITIONS SYNCHRO OUTPUT SHEETS

C. EXISTING PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

D. BACKGROUND CONDITIONS SYNCHRO OUTPUT SHEETS

E. BACKGROUND PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

F. CUMULATIVE CONDITIONS SYNCHRO OUTPUT SHEETS

G. CUMULATIVE PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

H. HCS FREEWAY SEGMENT ANALYSIS OUTPUT SHEETS

I. PEAK HOUR SIGNAL WARRANT ANALYSIS

J. SENSITIVITY ANALYSIS

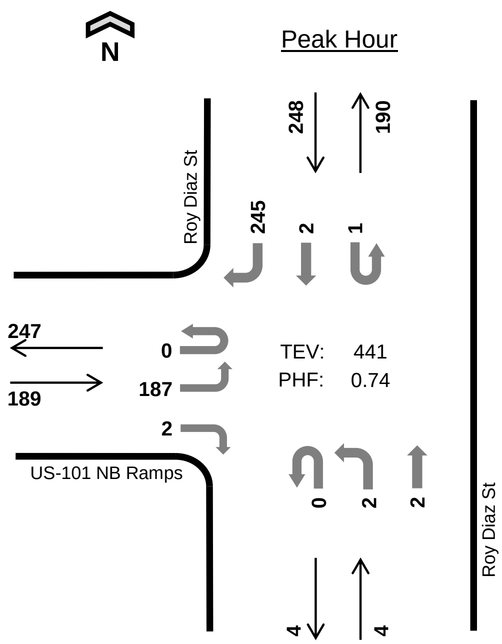
Kimley»Horn

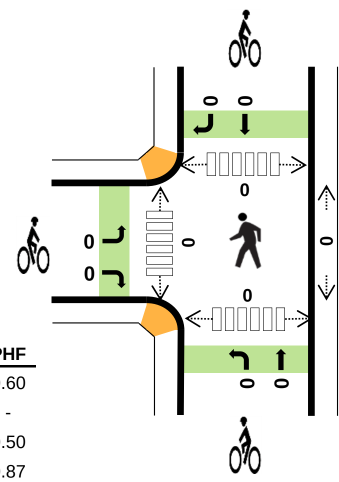
A. EXISTING CONDITIONS
TRAFFIC COUNTS

Roy Diaz St
US-101 NB Ramps

Date: 08-01-2019
Count Period: 6:30 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM

Peak Hour





	HV %:	PHF
EB	16.4%	0.60
WB	-	-
NB	50.0%	0.50
SB	19.8%	0.87
TOTAL	18.6%	0.74

Two-and-a-Half-Hour Count Summaries

Interval Start		US-101 NB Ramps Eastbound				n/a Westbound				Roy Diaz St Northbound				Roy Diaz St Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:30 AM		0	47	0	1	0	0	0	0	0	0	1	0	0	0	0	59	108	0
7:45 AM		0	79	0	0	0	0	0	0	0	0	0	0	1	0	1	69	150	0
8:00 AM		0	32	0	1	0	0	0	0	0	2	0	0	0	0	0	62	97	0
8:15 AM		0	29	0	0	0	0	0	0	0	0	1	0	0	0	1	55	86	441
Peak Hour	All	0	187	0	2	0	0	0	0	0	2	2	0	1	0	2	245	441	0
	HV	0	29	0	2	0	0	0	0	0	1	1	0	0	0	1	48	82	0
	HV%	-	16%	-	100%	-	-	-	-	-	50%	50%	-	0%	-	50%	20%	19%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	13	0	1	10	*24*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	9	0	0	14	*23*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	7	0	1	17	*25*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	2	0	0	8	*10*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	31	0	2	49	*82*	0	0	0	0	*0*	0	0	0	0	*0*

Two-and-a-Half-Hour Count Summaries

Interval Start		US-101 NB Ramps				n/a				Roy Diaz St				Roy Diaz St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM		0	26	0	1	0	0	0	0	0	1	0	0	0	0	1	33	62	0
6:45 AM		0	23	0	1	0	0	0	0	0	0	2	0	0	0	1	36	63	0
7:00 AM		0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	45	73	0
7:15 AM		0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	32	67	265
7:30 AM		**0**	**47**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**59**	**108**	311
7:45 AM		**0**	**79**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**69**	**150**	398
8:00 AM		**0**	**32**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**62**	**97**	422
8:15 AM		**0**	**29**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**55**	**86**	**441**
8:30 AM		0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	53	100	433
8:45 AM		0	31	0	1	0	0	0	0	0	1	0	0	0	0	0	53	86	369
Count Total		0	377	0	5	0	0	0	0	0	4	4	0	1	0	4	497	892	0
Peak Hour	**All**	**0**	**187**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**1**	**0**	**2**	**245**	**441**	**0**
	HV	**0**	**29**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**48**	**82**	**0**
	HV%	**-**	**16%**	**-**	**100%**	**-**	**-**	**-**	**-**	**-**	**50%**	**50%**	**-**	**0%**	**-**	**50%**	**20%**	**19%**	**0**

Note: Two-and-a-half-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
6:30 AM	4	0	0	9	*13*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	7	0	1	8	*16*	0	0	0	0	*0*	0	0	0	0	*0*
7:00 AM	8	0	0	17	*25*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	9	0	0	14	*23*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	**13**	**0**	**1**	**10**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**9**	**0**	**0**	**14**	***23***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**7**	**0**	**1**	**17**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:15 AM	**2**	**0**	**0**	**8**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:30 AM	12	0	0	10	*22*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	7	0	1	10	*18*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	78	0	4	117	*199*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**31**	**0**	**2**	**49**	***82***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-and-a-Half-Hour Count Summaries - Heavy Vehicles

Interval Start	US-101 NB Ramps				n/a				Roy Diaz St				Roy Diaz St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	8	13	0
6:45 AM	0	7	0	0	0	0	0	0	0	0	1	0	0	0	0	8	16	0
7:00 AM	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	17	25	0
7:15 AM	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	14	23	77
7:30 AM	**0**	**12**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**10**	**24**	88
7:45 AM	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**23**	95
8:00 AM	**0**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**17**	**25**	95
8:15 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**	**10**	**82**
8:30 AM	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	10	22	80
8:45 AM	0	6	0	1	0	0	0	0	0	1	0	0	0	0	0	10	18	75
Count Total	0	75	0	3	0	0	0	0	0	2	2	0	0	0	2	115	199	0
Peak Hour	**0**	**29**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**48**	**82**	**0**

Two-and-a-Half-Hour Count Summaries - Bikes

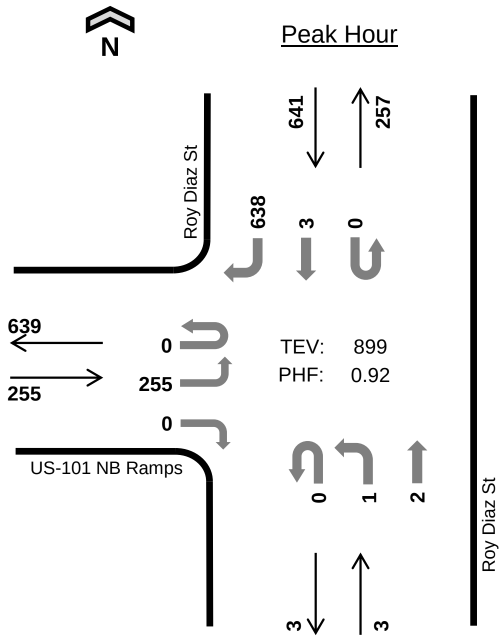
Interval Start	US-101 NB Ramps			n/a			Roy Diaz St			Roy Diaz St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

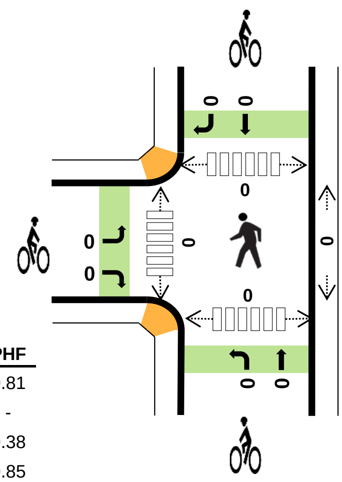
Roy Diaz St
US-101 NB Ramps

Date: 08-01-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM

Peak Hour



	HV %:	PHF
EB	14.5%	0.81
WB	-	-
NB	33.3%	0.38
SB	6.1%	0.85
TOTAL	8.6%	0.92



Two-Hour Count Summaries

Interval Start		US-101 NB Ramps				n/a				Roy Diaz St				Roy Diaz St				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	64	0	0	0	0	0	0	0	1	3	0	0	0	1	163	232	0
4:15 PM		**0**	**79**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**146**	**227**	0
4:30 PM		**0**	**64**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**161**	**225**	0
4:45 PM		**0**	**57**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**145**	**202**	886
5:00 PM		**0**	**55**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**186**	**245**	**899**
5:15 PM		0	50	0	0	0	0	0	0	0	2	0	0	0	0	0	137	189	861
5:30 PM		0	42	0	0	0	0	0	0	0	0	0	0	0	0	1	143	186	822
5:45 PM		0	33	0	1	0	0	0	0	0	0	0	0	0	0	0	98	132	752
Count Total		0	444	0	1	0	0	0	0	0	4	5	0	0	0	5	1,179	1,638	0
Peak Hour	**All**	**0**	**255**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**3**	**638**	**899**	**0**
	HV	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**38**	**77**	**0**
	HV%	**-**	**15%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**100%**	**0%**	**-**	**-**	**-**	**33%**	**6%**	**9%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	5	0	0	9	*14*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**10**	**0**	**1**	**14**	***25***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**9**	**0**	**0**	**12**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**10**	**0**	**0**	**8**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**8**	**0**	**0**	**5**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	6	0	2	6	*14*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	4	0	0	5	*9*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	7	0	0	6	*13*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	59	0	3	65	*127*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hr	**37**	**0**	**1**	**39**	***77***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	US-101 NB Ramps				n/a				Roy Diaz St				Roy Diaz St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	9	14	0
4:15 PM	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**13**	**25**	0
4:30 PM	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**21**	0
4:45 PM	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**18**	78
5:00 PM	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**13**	**77**
5:15 PM	0	6	0	0	0	0	0	0	0	2	0	0	0	0	0	6	14	66
5:30 PM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	1	4	9	54
5:45 PM	0	6	0	1	0	0	0	0	0	0	0	0	0	0	0	6	13	49
Count Total	0	58	0	1	0	0	0	0	0	3	0	0	0	0	2	63	127	0
Peak Hour	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**38**	**77**	**0**

Two-Hour Count Summaries - Bikes

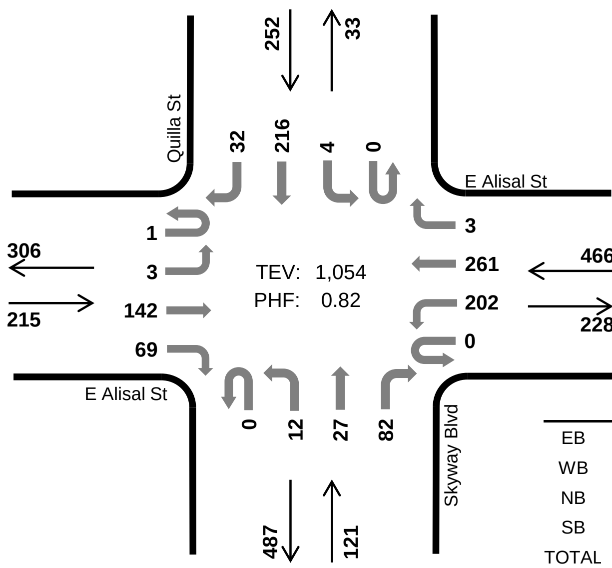
Interval Start	US-101 NB Ramps			n/a			Roy Diaz St			Roy Diaz St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

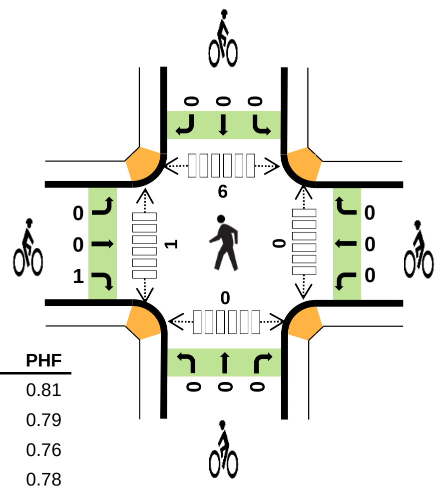
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Skyway Blvd
E Alisal St

Date: 08-01-2019
Count Period: 6:30 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM

Peak Hour





	HV %:	PHF
EB	6.0%	0.81
WB	2.4%	0.79
NB	9.9%	0.76
SB	1.2%	0.78
TOTAL	3.7%	0.82

Two-and-a-Half-Hour Count Summaries

Interval Start		E Alisal St Eastbound UT	LT	TH	RT	E Alisal St Westbound UT	LT	TH	RT	Skyway Blvd Northbound UT	LT	TH	RT	Quilla St Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
7:15 AM		0	0	34	16	0	44	48	0	0	2	4	23	0	3	39	5	218	0
7:30 AM		0	2	28	14	0	61	87	0	0	2	5	17	0	0	64	10	290	0
7:45 AM		0	1	38	27	0	69	77	2	0	2	3	23	0	0	72	9	323	0
8:00 AM		1	0	42	12	0	28	49	1	0	6	15	19	0	1	41	8	223	1,054
Peak Hour	All	1	3	142	69	0	202	261	3	0	12	27	82	0	4	216	32	1,054	0
	HV	0	0	9	4	0	4	7	0	0	1	0	11	0	1	1	1	39	0
	HV%	0%	0%	6%	6%	-	2%	3%	0%	-	8%	0%	13%	-	25%	0%	3%	4%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:15 AM	6	2	3	2	*13*	1	0	0	0	*1*	0	0	1	0	*1*
7:30 AM	3	2	2	0	*7*	0	0	0	0	*0*	0	1	0	0	*1*
7:45 AM	1	3	3	0	*7*	0	0	0	0	*0*	0	0	4	0	*4*
8:00 AM	3	4	4	1	*12*	0	0	0	0	*0*	0	0	1	0	*1*
Peak Hour	13	11	12	3	*39*	1	0	0	0	*1*	0	1	6	0	*7*

Two-and-a-Half-Hour Count Summaries

Interval Start	E Alisal St Eastbound UT	LT	TH	RT	E Alisal St Westbound UT	LT	TH	RT	Skyway Blvd Northbound UT	LT	TH	RT	Quilla St Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
6:30 AM	0	0	89	10	0	55	68	1	0	1	6	23	0	18	73	10	354	0
6:45 AM	0	1	48	13	0	34	53	0	0	3	8	25	0	9	57	4	255	0
7:00 AM	0	1	27	6	0	24	48	1	0	1	7	24	0	3	34	8	184	0
7:15 AM	**0**	**0**	**34**	**16**	**0**	**44**	**48**	**0**	**0**	**2**	**4**	**23**	**0**	**3**	**39**	**5**	**218**	1,011
7:30 AM	**0**	**2**	**28**	**14**	**0**	**61**	**87**	**0**	**0**	**2**	**5**	**17**	**0**	**0**	**64**	**10**	**290**	947
7:45 AM	**0**	**1**	**38**	**27**	**0**	**69**	**77**	**2**	**0**	**2**	**3**	**23**	**0**	**0**	**72**	**9**	**323**	1,015
8:00 AM	**1**	**0**	**42**	**12**	**0**	**28**	**49**	**1**	**0**	**6**	**15**	**19**	**0**	**1**	**41**	**8**	**223**	**1,054**
8:15 AM	1	1	35	7	0	24	56	1	0	3	3	18	0	0	31	10	190	1,026
8:30 AM	0	0	32	10	0	28	59	2	0	6	10	24	0	1	19	8	199	935
8:45 AM	0	0	25	9	0	24	47	4	0	9	7	27	0	0	23	7	182	794
Count Total	2	6	398	124	0	391	592	12	0	35	68	223	0	35	453	79	2,418	0
Peak Hour All	**1**	**3**	**142**	**69**	**0**	**202**	**261**	**3**	**0**	**12**	**27**	**82**	**0**	**4**	**216**	**32**	**1,054**	**0**
Peak Hour HV	**0**	**0**	**9**	**4**	**0**	**4**	**7**	**0**	**0**	**1**	**0**	**11**	**0**	**1**	**1**	**1**	**39**	**0**
Peak Hour HV%	**0%**	**0%**	**6%**	**6%**	**-**	**2%**	**3%**	**0%**	**-**	**8%**	**0%**	**13%**	**-**	**25%**	**0%**	**3%**	**4%**	**0**

Note: Two-and-a-half-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
6:30 AM	2	4	3	1	*10*	0	0	0	0	*0*	0	0	1	0	*1*
6:45 AM	4	3	4	0	*11*	0	0	0	1	*1*	0	0	0	0	*0*
7:00 AM	1	2	1	1	*5*	0	0	0	0	*0*	1	2	0	0	*3*
7:15 AM	**6**	**2**	**3**	**2**	***13***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**1**	**0**	*1*
7:30 AM	**3**	**2**	**2**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:45 AM	**1**	**3**	**3**	**0**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**4**	**0**	*4*
8:00 AM	**3**	**4**	**4**	**1**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	***1***
8:15 AM	2	3	1	1	*7*	0	0	1	0	*1*	0	0	0	0	*0*
8:30 AM	2	3	4	0	*9*	1	0	0	1	*2*	0	3	2	0	*5*
8:45 AM	3	5	5	1	*14*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	27	31	30	7	*95*	2	0	1	2	*5*	1	6	9	0	*16*
Peak Hour	**13**	**11**	**12**	**3**	***39***	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**6**	**0**	***7***

Two-and-a-Half-Hour Count Summaries - Heavy Vehicles

Interval Start	E Alisal St				E Alisal St				Skyway Blvd				Quilla St				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM	0	0	2	0	0	2	1	1	0	0	0	3	0	0	1	0	10	0
6:45 AM	0	0	4	0	0	2	1	0	0	0	0	4	0	0	0	0	11	0
7:00 AM	0	0	1	0	0	1	1	0	0	0	0	1	0	0	1	0	5	0
7:15 AM	**0**	**0**	**5**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**1**	**13**	39
7:30 AM	**0**	**0**	**2**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**7**	36
7:45 AM	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**7**	32
8:00 AM	**0**	**0**	**1**	**2**	**0**	**1**	**3**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**1**	**0**	**12**	**39**
8:15 AM	0	1	1	0	0	2	1	0	0	0	0	1	0	0	0	1	7	33
8:30 AM	0	0	2	0	0	2	1	0	0	0	1	3	0	0	0	0	9	35
8:45 AM	0	0	3	0	0	3	2	0	0	1	0	4	0	0	1	0	14	42
Count Total	0	1	22	4	0	16	14	1	0	2	1	27	0	1	4	2	95	0
Peak Hour	**0**	**0**	**9**	**4**	**0**	**4**	**7**	**0**	**0**	**1**	**0**	**11**	**0**	**1**	**1**	**1**	**39**	**0**

Two-and-a-Half-Hour Count Summaries - Bikes

Interval Start	E Alisal St			E Alisal St			Skyway Blvd			Quilla St			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	1	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	2
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	2
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:15 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	1
8:30 AM	0	1	0	0	0	0	0	0	0	0	0	1	2	3
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	1	1	0	0	0	0	0	1	0	0	2	5	0
Peak Hour	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

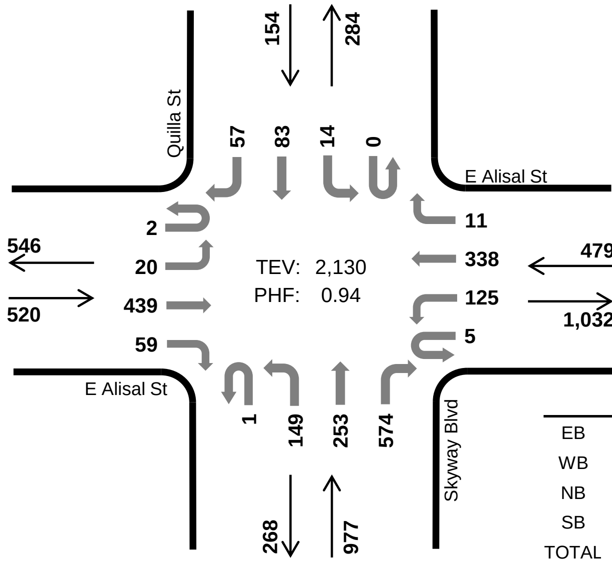
www.idaxdata.com

Skyway Blvd
E Alisal St

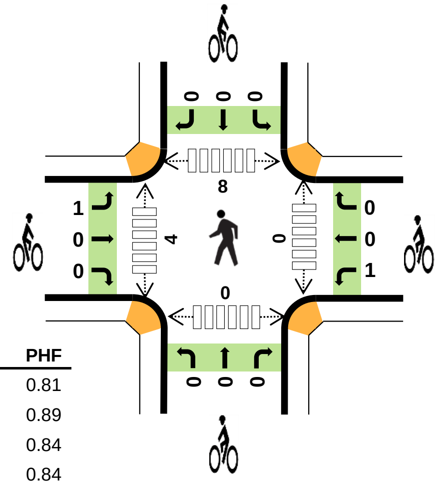
Date: 08-01-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM

N

Peak Hour



	HV %:	PHF
EB	3.1%	0.81
WB	2.7%	0.89
NB	1.9%	0.84
SB	0.6%	0.84
TOTAL	2.3%	0.94



Two-Hour Count Summaries

Interval Start	E Alisal St Eastbound UT	LT	TH	RT	E Alisal St Westbound UT	LT	TH	RT	Skyway Blvd Northbound UT	LT	TH	RT	Quilla St Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	3	88	9	0	35	76	1	0	37	47	108	0	2	32	8	446	0
4:15 PM	1	1	95	12	0	27	64	8	0	38	44	128	0	2	19	14	453	0
4:30 PM	**2**	**2**	**98**	**15**	**1**	**36**	**90**	**1**	**0**	**29**	**58**	**126**	**0**	**6**	**23**	**12**	**499**	0
4:45 PM	**0**	**5**	**94**	**19**	**1**	**31**	**96**	**7**	**0**	**34**	**64**	**128**	**0**	**3**	**20**	**14**	**516**	1,914
5:00 PM	**0**	**9**	**103**	**12**	**2**	**35**	**82**	**2**	**0**	**53**	**74**	**163**	**0**	**2**	**12**	**16**	**565**	2,033
5:15 PM	**0**	**4**	**144**	**13**	**1**	**23**	**70**	**1**	**1**	**33**	**57**	**157**	**0**	**3**	**28**	**15**	**550**	**2,130**
5:30 PM	0	4	112	10	0	32	60	3	0	32	69	130	0	3	13	15	483	2,114
5:45 PM	2	10	114	8	1	17	68	1	0	20	45	104	0	1	13	17	421	2,019
Count Total	5	38	848	98	6	236	606	24	1	276	458	1,044	0	22	160	111	3,933	0
Peak Hour All	**2**	**20**	**439**	**59**	**5**	**125**	**338**	**11**	**1**	**149**	**253**	**574**	**0**	**14**	**83**	**57**	**2,130**	**0**
Peak Hour HV	**0**	**0**	**15**	**1**	**0**	**12**	**1**	**0**	**0**	**1**	**2**	**16**	**0**	**0**	**1**	**0**	**49**	**0**
Peak Hour HV%	**0%**	**0%**	**3%**	**2%**	**0%**	**10%**	**0%**	**0%**	**0%**	**1%**	**1%**	**3%**	**-**	**0%**	**1%**	**0%**	**2%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	7	3	8	0	*18*	0	0	0	0	*0*	0	4	6	0	*10*
4:15 PM	5	1	8	1	*15*	0	0	0	0	*0*	0	2	1	0	*3*
4:30 PM	**4**	**7**	**3**	**0**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**4**	**0**	*5*
4:45 PM	**6**	**3**	**5**	**0**	***14***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**3**	**1**	**6**	**1**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**2**	**3**	**0**	*5*
5:15 PM	**3**	**2**	**5**	**0**	***10***	**1**	**0**	**0**	**0**	***1***	**0**	**1**	**1**	**0**	***2***
5:30 PM	2	3	6	0	*11*	0	1	0	0	*1*	0	2	0	0	*2*
5:45 PM	3	2	5	0	*10*	0	0	0	0	*0*	0	0	2	0	*2*
Count Total	33	22	46	2	*103*	1	2	0	0	*3*	0	12	17	0	*29*
Peak Hour	**16**	**13**	**19**	**1**	***49***	**1**	**1**	**0**	**0**	***2***	**0**	**4**	**8**	**0**	***12***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	E Alisal St Eastbound UT	LT	TH	RT	E Alisal St Westbound UT	LT	TH	RT	Skyway Blvd Northbound UT	LT	TH	RT	Quilla St Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	7	0	0	2	1	0	0	0	1	7	0	0	0	0	18	0
4:15 PM	0	1	2	2	0	0	1	0	0	0	0	8	0	0	1	0	15	0
4:30 PM	**0**	**0**	**3**	**1**	**0**	**6**	**1**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**14**	0
4:45 PM	**0**	**0**	**6**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**14**	61
5:00 PM	**0**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**5**	**0**	**0**	**1**	**0**	**11**	54
5:15 PM	**0**	**0**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**10**	**49**
5:30 PM	0	0	2	0	0	3	0	0	0	0	0	6	0	0	0	0	11	46
5:45 PM	0	0	3	0	0	1	1	0	0	0	0	5	0	0	0	0	10	42
Count Total	0	1	29	3	0	18	4	0	0	1	3	42	0	0	2	0	103	0
Peak Hour	**0**	**0**	**15**	**1**	**0**	**12**	**1**	**0**	**0**	**1**	**2**	**16**	**0**	**0**	**1**	**0**	**49**	**0**

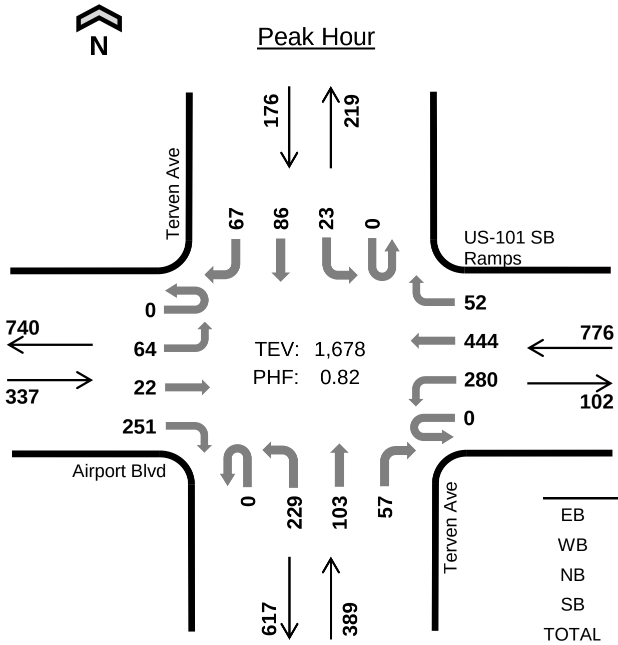
Two-Hour Count Summaries - Bikes

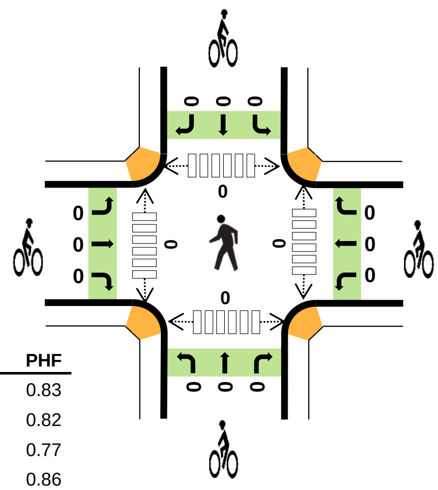
Interval Start	E Alisal St Eastbound LT	TH	RT	E Alisal St Westbound LT	TH	RT	Skyway Blvd Northbound LT	TH	RT	Quilla St Southbound LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
5:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	1	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	1	0	0	1	1	0	0	0	0	0	0	0	3	0
Peak Hour	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Terven Ave
Airport Blvd

Date: 08-01-2019
Count Period: 6:30 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	24.0%	0.83
WB	8.8%	0.82
NB	11.8%	0.77
SB	15.3%	0.86
TOTAL	13.2%	0.82

Two-and-a-Half-Hour Count Summaries

Interval Start		Airport Blvd				US-101 SB Ramps				Terven Ave				Terven Ave				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:15 AM		0	18	6	40	0	50	86	13	0	56	22	9	0	6	9	17	332	0
7:30 AM		0	15	7	58	0	59	103	12	0	51	30	23	0	5	24	17	404	0
7:45 AM		0	12	6	83	0	92	134	12	0	81	31	15	0	4	26	17	513	0
8:00 AM		0	19	3	70	0	79	121	15	0	41	20	10	0	8	27	16	429	1,678
Peak Hour	All	0	64	22	251	0	280	444	52	0	229	103	57	0	23	86	67	1,678	0
	HV	0	17	12	52	0	6	61	1	0	22	8	16	0	10	9	8	222	0
	HV%	-	27%	55%	21%	-	2%	14%	2%	-	10%	8%	28%	-	43%	10%	12%	13%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:15 AM	24	14	12	7	*57*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	16	17	11	4	*48*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	22	21	14	7	*64*	0	0	0	0	*0*	0	0	0	0	*0*
8:00 AM	19	16	9	9	*53*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	81	68	46	27	*222*	0	0	0	0	*0*	0	0	0	0	*0*

Two-and-a-Half-Hour Count Summaries

Interval Start		Airport Blvd Eastbound UT	LT	TH	RT	US-101 SB Ramps Westbound UT	LT	TH	RT	Terven Ave Northbound UT	LT	TH	RT	Terven Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
6:30 AM		0	12	7	40	0	26	111	14	0	73	14	31	0	11	12	21	372	0
6:45 AM		0	10	2	49	0	42	150	11	0	92	16	15	0	6	16	31	440	0
7:00 AM		0	16	8	48	0	28	79	12	0	51	12	14	0	9	15	16	308	0
7:15 AM		**0**	**18**	**6**	**40**	**0**	**50**	**86**	**13**	**0**	**56**	**22**	**9**	**0**	**6**	**9**	**17**	**332**	1,452
7:30 AM		**0**	**15**	**7**	**58**	**0**	**59**	**103**	**12**	**0**	**51**	**30**	**23**	**0**	**5**	**24**	**17**	**404**	1,484
7:45 AM		**0**	**12**	**6**	**83**	**0**	**92**	**134**	**12**	**0**	**81**	**31**	**15**	**0**	**4**	**26**	**17**	**513**	1,557
8:00 AM		**0**	**19**	**3**	**70**	**0**	**79**	**121**	**15**	**0**	**41**	**20**	**10**	**0**	**8**	**27**	**16**	**429**	**1,678**
8:15 AM		0	14	5	49	0	45	62	7	0	28	17	12	0	7	26	14	286	1,632
8:30 AM		0	21	5	60	0	33	62	8	0	35	29	9	0	5	13	23	303	1,531
8:45 AM		0	15	4	45	0	31	68	5	0	39	9	7	0	6	21	18	268	1,286
Count Total		0	152	53	542	0	485	976	109	0	547	200	145	0	67	189	190	3,655	0
Peak Hour	**All**	**0**	**64**	**22**	**251**	**0**	**280**	**444**	**52**	**0**	**229**	**103**	**57**	**0**	**23**	**86**	**67**	**1,678**	**0**
	HV	**0**	**17**	**12**	**52**	**0**	**6**	**61**	**1**	**0**	**22**	**8**	**16**	**0**	**10**	**9**	**8**	**222**	**0**
	HV%	**-**	**27%**	**55%**	**21%**	**-**	**2%**	**14%**	**2%**	**-**	**10%**	**8%**	**28%**	**-**	**43%**	**10%**	**12%**	**13%**	**0**

Note: Two-and-a-half-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
6:30 AM	17	13	8	12	*50*	0	0	0	0	*0*	0	0	0	0	*0*
6:45 AM	11	11	5	10	*37*	0	0	1	0	*1*	1	0	0	0	*1*
7:00 AM	24	13	12	9	*58*	0	0	0	0	*0*	0	0	1	0	*1*
7:15 AM	**24**	**14**	**12**	**7**	***57***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**16**	**17**	**11**	**4**	***48***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**22**	**21**	**14**	**7**	***64***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**19**	**16**	**9**	**9**	***53***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	14	10	7	7	*38*	1	0	0	0	*1*	0	1	0	0	*1*
8:30 AM	15	13	11	9	*48*	1	0	0	0	*1*	0	0	0	0	*0*
8:45 AM	21	14	10	14	*59*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	183	142	99	88	*512*	2	0	1	0	*3*	1	1	1	0	*3*
Peak Hour	**81**	**68**	**46**	**27**	***222***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-and-a-Half-Hour Count Summaries - Heavy Vehicles

Interval Start	Airport Blvd				US-101 SB Ramps				Terven Ave				Terven Ave				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
6:30 AM	0	4	4	9	0	2	11	0	0	3	1	4	0	5	2	5	50	0
6:45 AM	0	2	0	9	0	2	8	1	0	3	1	1	0	4	3	3	37	0
7:00 AM	0	9	3	12	0	0	10	3	0	9	0	3	0	3	3	3	58	0
7:15 AM	**0**	**4**	**6**	**14**	**0**	**1**	**13**	**0**	**0**	**8**	**1**	**3**	**0**	**2**	**3**	**2**	**57**	202
7:30 AM	**0**	**4**	**2**	**10**	**0**	**0**	**16**	**1**	**0**	**4**	**1**	**6**	**0**	**3**	**0**	**1**	**48**	200
7:45 AM	**0**	**4**	**4**	**14**	**0**	**2**	**19**	**0**	**0**	**7**	**3**	**4**	**0**	**1**	**3**	**3**	**64**	227
8:00 AM	**0**	**5**	**0**	**14**	**0**	**3**	**13**	**0**	**0**	**3**	**3**	**3**	**0**	**4**	**3**	**2**	**53**	**222**
8:15 AM	0	4	3	7	0	3	6	1	0	3	1	3	0	3	0	4	38	203
8:30 AM	0	3	2	10	0	0	11	2	0	4	6	1	0	0	1	8	48	203
8:45 AM	0	5	1	15	0	0	12	2	0	8	1	1	0	2	3	9	59	198
Count Total	0	44	25	114	0	13	119	10	0	52	18	29	0	27	21	40	512	0
Peak Hour	**0**	**17**	**12**	**52**	**0**	**6**	**61**	**1**	**0**	**22**	**8**	**16**	**0**	**10**	**9**	**8**	**222**	**0**

Two-and-a-Half-Hour Count Summaries - Bikes

Interval Start	Airport Blvd			US-101 SB Ramps			Terven Ave			Terven Ave			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	1	0	0	0	1	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	1
8:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	1	2
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	2	0	0	0	0	0	1	0	0	0	3	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

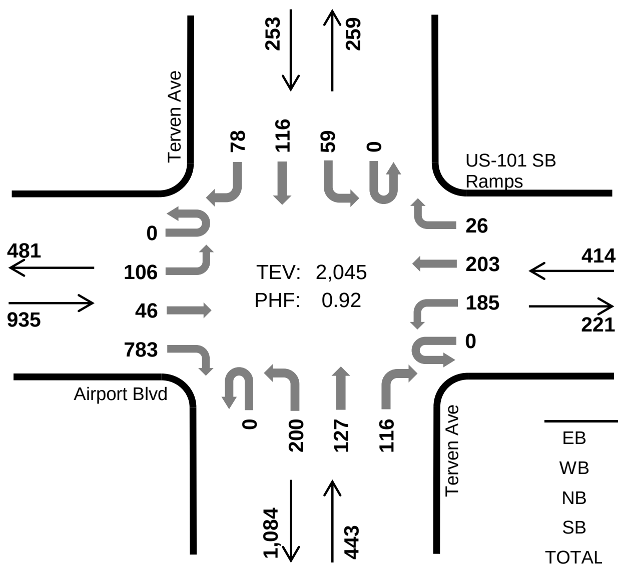
Terven Ave
Airport Blvd

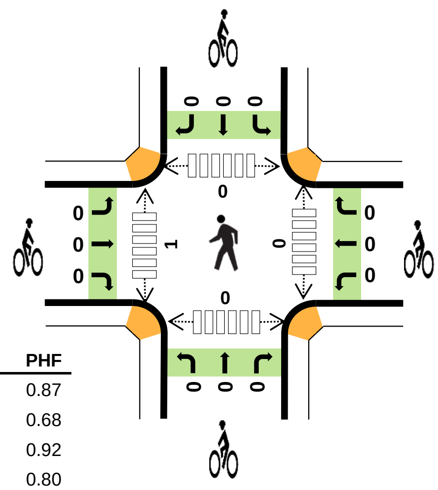
idax

Date: 08-01-2019
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM

N

Peak Hour





	HV %:	PHF
EB	5.5%	0.87
WB	17.4%	0.68
NB	9.0%	0.92
SB	20.2%	0.80
TOTAL	10.5%	0.92

Two-Hour Count Summaries

Interval Start		Airport Blvd Eastbound UT	LT	TH	RT	US-101 SB Ramps Westbound UT	LT	TH	RT	Terven Ave Northbound UT	LT	TH	RT	Terven Ave Southbound UT	LT	TH	RT	15-min Total	Rolling One Hour
4:00 PM		0	48	13	202	0	45	78	7	0	48	32	15	0	5	22	21	536	0
4:15 PM		0	30	6	198	0	37	64	9	0	60	31	15	0	18	28	23	519	0
4:30 PM		0	19	20	176	0	29	43	10	0	51	29	25	0	17	39	17	475	0
4:45 PM		**0**	**24**	**13**	**193**	**0**	**37**	**43**	**3**	**0**	**55**	**29**	**24**	**0**	**10**	**31**	**22**	**484**	2,014
5:00 PM		**0**	**27**	**10**	**231**	**0**	**31**	**49**	**5**	**0**	**49**	**37**	**35**	**0**	**20**	**31**	**28**	**553**	2,031
5:15 PM		**0**	**26**	**11**	**167**	**0**	**66**	**77**	**10**	**0**	**46**	**26**	**25**	**0**	**16**	**24**	**18**	**512**	2,024
5:30 PM		**0**	**29**	**12**	**192**	**0**	**51**	**34**	**8**	**0**	**50**	**35**	**32**	**0**	**13**	**30**	**10**	**496**	**2,045**
5:45 PM		1	20	9	122	0	45	49	4	0	31	15	22	0	7	29	17	371	1,932
Count Total		1	223	94	1,481	0	341	437	56	0	390	234	193	0	106	234	156	3,946	0
Peak Hour	**All**	**0**	**106**	**46**	**783**	**0**	**185**	**203**	**26**	**0**	**200**	**127**	**116**	**0**	**59**	**116**	**78**	**2,045**	**0**
	HV	**0**	**6**	**13**	**32**	**0**	**13**	**53**	**6**	**0**	**20**	**13**	**7**	**0**	**11**	**11**	**29**	**214**	**0**
	HV%	**-**	**6%**	**28%**	**4%**	**-**	**7%**	**26%**	**23%**	**-**	**10%**	**10%**	**6%**	**-**	**19%**	**9%**	**37%**	**10%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
4:00 PM	24	21	4	12	*61*	0	0	0	0	*0*	0	0	1	0	*1*
4:15 PM	20	17	10	16	*63*	1	0	0	0	*1*	0	0	1	0	*1*
4:30 PM	17	14	16	11	*58*	0	0	0	0	*0*	0	1	0	0	*1*
4:45 PM	**14**	**15**	**11**	**15**	***55***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**13**	**15**	**9**	**14**	***51***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**12**	**24**	**10**	**13**	***59***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
5:30 PM	**12**	**18**	**10**	**9**	***49***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:45 PM	20	19	5	11	*55*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	132	143	75	101	*451*	1	0	0	0	*1*	0	2	2	0	*4*
Peak Hour	**51**	**72**	**40**	**51**	***214***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	Airport Blvd Eastbound				US-101 SB Ramps Westbound				Terven Ave Northbound				Terven Ave Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	4	5	15	0	4	14	3	0	2	1	1	0	1	5	6	61	0
4:15 PM	0	7	1	12	0	2	14	1	0	5	4	1	0	5	4	7	63	0
4:30 PM	0	3	5	9	0	1	9	4	0	10	4	2	0	1	2	8	58	0
4:45 PM	**0**	**3**	**3**	**8**	**0**	**1**	**13**	**1**	**0**	**7**	**2**	**2**	**0**	**5**	**2**	**8**	**55**	237
5:00 PM	**0**	**2**	**2**	**9**	**0**	**5**	**10**	**0**	**0**	**7**	**2**	**0**	**0**	**3**	**3**	**8**	**51**	227
5:15 PM	**0**	**1**	**5**	**6**	**0**	**3**	**19**	**2**	**0**	**3**	**4**	**3**	**0**	**2**	**4**	**7**	**59**	223
5:30 PM	**0**	**0**	**3**	**9**	**0**	**4**	**11**	**3**	**0**	**3**	**5**	**2**	**0**	**1**	**2**	**6**	**49**	**214**
5:45 PM	0	5	4	11	0	0	19	0	0	5	0	0	0	1	1	9	55	214
Count Total	0	25	28	79	0	20	109	14	0	42	22	11	0	19	23	59	451	0
Peak Hour	**0**	**6**	**13**	**32**	**0**	**13**	**53**	**6**	**0**	**20**	**13**	**7**	**0**	**11**	**11**	**29**	**214**	**0**

Two-Hour Count Summaries - Bikes

Interval Start	Airport Blvd Eastbound			US-101 SB Ramps Westbound			Terven Ave Northbound			Terven Ave Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	1
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

B. EXISTING CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	215	0	2	2	3	282
Future Vol, veh/h	215	0	2	2	3	282
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	291	0	3	3	4	381

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	385	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	954	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	954	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	4.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	954	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.3	-	-
HCM Control Delay (s)	8.8	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	0	322	511	60	263	118	66	26	99	77
Future Volume (veh/h)	74	25	0	322	511	60	263	118	66	26	99	77
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	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	90	30	0	393	623	73	321	144	0	32	121	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	108	163	0	418	897	105	326	146		67	254	271
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1428	1085	0	1781	2900	339	1189	533	1259	363	1371	1459
Grp Volume(v), veh/h	90	30	0	393	345	351	465	0	0	153	0	94
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1631	1722	0	1259	1734	0	1459
Q Serve(g_s), s	7.0	2.7	0.0	24.3	21.2	21.2	30.1	0.0	0.0	8.8	0.0	6.3
Cycle Q Clear(g_c), s	7.0	2.7	0.0	24.3	21.2	21.2	30.1	0.0	0.0	8.8	0.0	6.3
Prop In Lane	1.00		0.00	1.00		0.21	0.69		1.00	0.21		1.00
Lane Grp Cap(c), veh/h	108	163	0	418	497	505	473	0		321	0	271
V/C Ratio(X)	0.83	0.18	0.00	0.94	0.69	0.70	0.98	0.00		0.48	0.00	0.35
Avail Cap(c_a), veh/h	271	163	0	418	497	505	473	0		321	0	271
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.6	0.0	42.2	34.1	34.1	40.5	0.0	0.0	40.8	0.0	39.8
Incr Delay (d2), s/veh	6.1	2.5	0.0	29.3	7.8	7.7	37.6	0.0	0.0	5.0	0.0	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	2.7	0.8	0.0	13.6	9.0	9.1	17.1	0.0	0.0	4.3	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	44.1	0.0	71.5	41.8	41.8	78.0	0.0	0.0	45.8	0.0	43.3
LnGrp LOS	E	D	A	E	D	D	E	A		D	A	D
Approach Vol, veh/h		120			1089			465	A		247	
Approach Delay, s/veh		53.9			52.5			78.0			44.9	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	22.2		25.0	12.2	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	26.3	4.7		10.8	9.0	23.2		32.1
Green Ext Time (p_c), s	0.0	0.0		0.5	0.1	2.5		0.0

Intersection Summary			
HCM 6th Ctrl Delay			57.8
HCM 6th LOS			E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	479	153	114	284	85	142
Future Volume (veh/h)	479	153	114	284	85	142
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	521	166	124	309	92	154
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	1004	1843	158	1317	220	196
Arrive On Green	0.55	0.55	0.09	0.72	0.13	0.13
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	521	166	124	309	92	154
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	13.5	1.6	5.2	4.3	3.7	7.2
Cycle Q Clear(g_c), s	13.5	1.6	5.2	4.3	3.7	7.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1004	1843	158	1317	220	196
V/C Ratio(X)	0.52	0.09	0.78	0.23	0.42	0.79
Avail Cap(c_a), veh/h	1004	1843	302	1317	325	289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	4.3	33.6	3.7	30.4	32.0
Incr Delay (d2), s/veh	1.9	0.1	8.3	0.4	1.3	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.6	2.4	1.0	1.6	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.8	4.4	41.9	4.1	31.7	40.3
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	687			433	246	
Approach Delay, s/veh	10.8			14.9	37.1	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	12.8	47.2	60.0	15.5
Change Period (Y+Rc), s	* 6	* 6	* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35	* 54	14.0
Max Q Clear Time (g_c+I1), s	7.2	15.5	6.3	9.2
Green Ext Time (p_c), s	0.1	3.6	1.8	0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	167	24	6	4	16	460
Future Vol, veh/h	167	24	6	4	16	460
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	182	26	7	4	17	500
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.2	8.8	14
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	82%	0%	100%	70%	0%	0%
Vol Thru, %	18%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	30%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	3	111	80	16	460
LT Vol	6	0	111	56	0	0
Through Vol	1	3	0	0	16	0
RT Vol	0	0	0	24	0	460
Lane Flow Rate	8	3	121	87	17	500
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.013	0.005	0.208	0.14	0.025	0.62
Departure Headway (Hd)	6.026	5.612	6.2	5.837	5.171	4.467
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	635	576	610	693	810
Service Time	3.787	3.373	3.975	3.612	2.899	2.195
HCM Lane V/C Ratio	0.014	0.005	0.21	0.143	0.025	0.617
HCM Control Delay	8.9	8.4	10.6	9.6	8	14.2
HCM Lane LOS	A	A	B	A	A	B
HCM 95th-tile Q	0	0	0.8	0.5	0.1	4.4

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	293	0	1	2	3	734
Future Vol, veh/h	293	0	1	2	3	734
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	318	0	1	2	3	798

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	801	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	517	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	517	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	517	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.325	-	-
HCM Control Delay (s)	12	-	10.4	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	0	213	233	30	230	146	133	68	133	90
Future Volume (veh/h)	122	53	0	213	233	30	230	146	133	68	133	90
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	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	133	58	0	232	253	33	250	159	0	74	145	98
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, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	164	315	0	265	698	90	293	187		112	219	218
Arrive On Green	0.10	0.21	0.00	0.15	0.27	0.27	0.28	0.28	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1725	1485	0	1711	2563	331	1039	661	1535	587	1150	1144
Grp Volume(v), veh/h	133	58	0	232	141	145	409	0	0	219	0	98
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1455	1700	0	1535	1737	0	1144
Q Serve(g_s), s	8.2	3.5	0.0	14.5	8.6	8.8	24.8	0.0	0.0	12.7	0.0	8.3
Cycle Q Clear(g_c), s	8.2	3.5	0.0	14.5	8.6	8.8	24.8	0.0	0.0	12.7	0.0	8.3
Prop In Lane	1.00		0.00	1.00		0.23	0.61		1.00	0.34		1.00
Lane Grp Cap(c), veh/h	164	315	0	265	392	396	480	0		331	0	218
V/C Ratio(X)	0.81	0.18	0.00	0.88	0.36	0.37	0.85	0.00		0.66	0.00	0.45
Avail Cap(c_a), veh/h	337	315	0	413	392	396	480	0		331	0	218
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	35.2	0.0	45.1	32.0	32.1	37.0	0.0	0.0	40.9	0.0	39.1
Incr Delay (d2), s/veh	10.9	1.3	0.0	12.3	2.6	2.6	17.2	0.0	0.0	9.9	0.0	6.6
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	4.1	1.4	0.0	6.8	3.2	3.3	12.1	0.0	0.0	6.4	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	36.5	0.0	57.3	34.6	34.7	54.1	0.0	0.0	50.8	0.0	45.6
LnGrp LOS	E	D	A	E	C	C	D	A		D	A	D
Approach Vol, veh/h		191			518			409	A		317	
Approach Delay, s/veh		52.4			44.8			54.1			49.2	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.6	28.5		25.0	14.1	35.0		35.0				
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2				
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	29.7		30.8				
Max Q Clear Time (g_c+I1), s	16.5	5.5		14.7	10.2	10.8		26.8				
Green Ext Time (p_c), s	0.4	0.1		0.8	0.3	1.4		0.8				

Intersection Summary			
HCM 6th Ctrl Delay			49.4
HCM 6th LOS			D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	456	323	336	83	165
Future Volume (veh/h)	662	456	323	336	83	165
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	720	496	351	365	90	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	839	1637	297	1294	246	219
Arrive On Green	0.46	0.46	0.17	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	720	496	351	365	90	179
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	26.9	6.8	13.0	5.6	3.6	8.6
Cycle Q Clear(g_c), s	26.9	6.8	13.0	5.6	3.6	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	839	1637	297	1294	246	219
V/C Ratio(X)	0.86	0.30	1.18	0.28	0.37	0.82
Avail Cap(c_a), veh/h	839	1637	297	1294	320	284
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	7.6	31.9	4.2	29.9	32.0
Incr Delay (d2), s/veh	11.1	0.5	111.3	0.5	0.9	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	2.5	14.2	1.5	1.5	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.8	8.1	143.2	4.8	30.8	45.2
LnGrp LOS	C	A	F	A	C	D
Approach Vol, veh/h	1216			716	269	
Approach Delay, s/veh	20.9			72.6	40.4	
Approach LOS	C			E	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.0	41.0				60.0		16.8
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	15.0	28.9				7.6		10.6
Green Ext Time (p_c), s	0.0	3.3				2.1		0.3

Intersection Summary	
HCM 6th Ctrl Delay	40.1
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	23.3
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	710	25	20	67	0	199
Future Vol, veh/h	710	25	20	67	0	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	772	27	22	73	0	216
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	27.7	10.6	12.4
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	47%	0%	100%	90%	0%	0%
Vol Thru, %	53%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	10%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	45	473	262	0	199
LT Vol	20	0	473	237	0	0
Through Vol	22	45	0	0	0	0
RT Vol	0	0	0	25	0	199
Lane Flow Rate	46	49	514	284	0	216
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.092	0.094	0.863	0.468	0	0.367
Departure Headway (Hd)	7.235	6.994	6.037	5.922	6.828	6.114
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	512	602	612	0	588
Service Time	4.978	4.737	3.755	3.639	4.567	3.853
HCM Lane V/C Ratio	0.093	0.096	0.854	0.464	0	0.367
HCM Control Delay	10.7	10.5	35.4	13.8	9.6	12.4
HCM Lane LOS	B	B	E	B	N	B
HCM 95th-tile Q	0.3	0.3	9.7	2.5	0	1.7

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - EX]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles													
Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	17	8.0	0.046	3.6	LOS A	0.2	6.0	0.38	0.21	0.38	33.6
8	T1	38	0.0	0.046	3.3	LOS A	0.2	6.0	0.38	0.21	0.38	35.5
18	R2	115	13.0	0.084	3.3	LOS A	0.5	12.5	0.37	0.21	0.37	34.9
Approach		170	9.6	0.084	3.3	LOS A	0.5	12.5	0.38	0.21	0.38	34.9
East: E. Alisal St												
1	L2	283	2.0	0.202	4.2	LOS A	1.2	30.4	0.22	0.09	0.22	33.0
6	T1	366	3.0	0.226	4.0	LOS A	1.4	35.7	0.21	0.08	0.21	34.2
16	R2	4	0.0	0.226	3.9	LOS A	1.4	35.7	0.21	0.08	0.21	34.6
Approach		652	2.5	0.226	4.1	LOS A	1.4	35.7	0.21	0.08	0.21	33.6
North: Quilla St												
7	L2	6	25.0	0.392	10.0	LOS A	2.0	49.7	0.60	0.62	0.66	32.8
4	T1	302	0.0	0.392	8.5	LOS A	2.0	49.7	0.60	0.62	0.66	33.4
14	R2	45	3.0	0.392	8.6	LOS A	2.0	49.7	0.60	0.62	0.66	30.0
Approach		354	0.8	0.392	8.5	LOS A	2.0	49.7	0.60	0.62	0.66	33.0
West: E. Alisal St												
5	L2	6	0.0	0.182	4.6	LOS A	1.2	31.4	0.66	0.50	0.66	34.2
2	T1	199	6.0	0.182	4.9	LOS A	1.2	31.4	0.66	0.50	0.66	33.9
12	R2	96	6.0	0.061	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.2
Approach		301	5.9	0.182	3.3	LOS A	1.2	31.4	0.45	0.34	0.45	34.6
All Vehicles		1477	3.6	0.392	4.9	LOS A	2.0	49.7	0.37	0.28	0.39	33.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

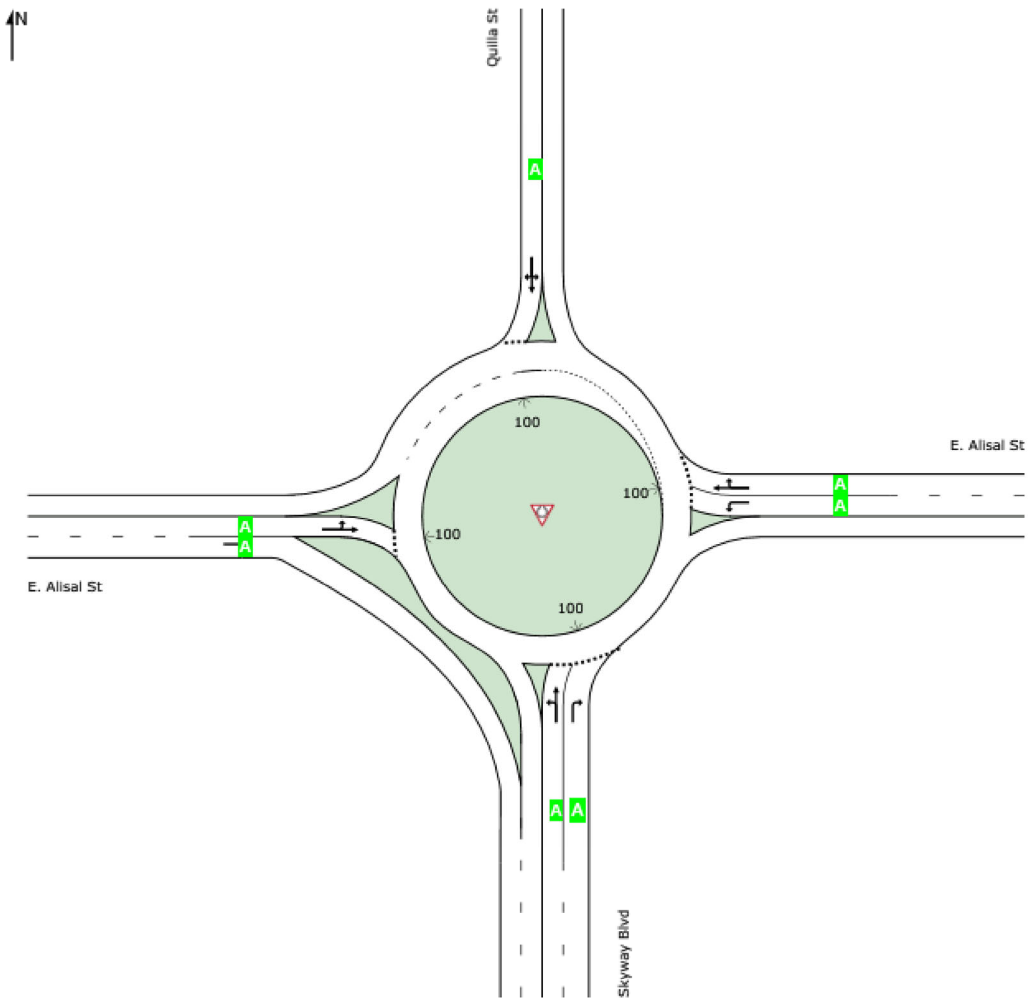
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - EX]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - EX]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	184	1.0	0.583	13.0	LOS B	6.2	156.2	0.87	0.92	1.17	28.1
8	T1	310	1.0	0.583	13.0	LOS B	6.2	156.2	0.87	0.92	1.17	30.6
18	R2	702	3.0	0.647	12.4	LOS B	8.6	220.4	0.90	0.93	1.25	30.5
Approach		1196	2.2	0.647	12.7	LOS B	8.6	220.4	0.89	0.93	1.22	30.2
East: E. Alisal St												
1	L2	160	10.0	0.219	7.4	LOS A	1.4	36.6	0.71	0.60	0.71	31.4
6	T1	414	0.0	0.376	7.0	LOS A	3.0	75.4	0.76	0.60	0.76	32.4
16	R2	14	0.0	0.376	7.0	LOS A	3.0	75.4	0.76	0.60	0.76	33.2
Approach		587	2.7	0.376	7.1	LOS A	3.0	75.4	0.75	0.60	0.75	32.1
North: Quilla St												
7	L2	17	0.0	0.248	7.6	LOS A	1.2	30.7	0.66	0.63	0.66	33.9
4	T1	101	1.0	0.248	7.6	LOS A	1.2	30.7	0.66	0.63	0.66	33.7
14	R2	70	0.0	0.248	7.6	LOS A	1.2	30.7	0.66	0.63	0.66	30.5
Approach		188	0.5	0.248	7.6	LOS A	1.2	30.7	0.66	0.63	0.66	32.7
West: E. Alisal St												
5	L2	27	0.0	0.422	6.7	LOS A	3.0	76.0	0.55	0.38	0.55	32.6
2	T1	537	3.0	0.422	6.8	LOS A	3.0	76.0	0.55	0.38	0.55	32.4
12	R2	72	2.0	0.044	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		636	2.8	0.422	6.0	LOS A	3.0	76.0	0.49	0.34	0.49	32.8
All Vehicles		2607	2.3	0.647	9.4	LOS A	8.6	220.4	0.74	0.69	0.89	31.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

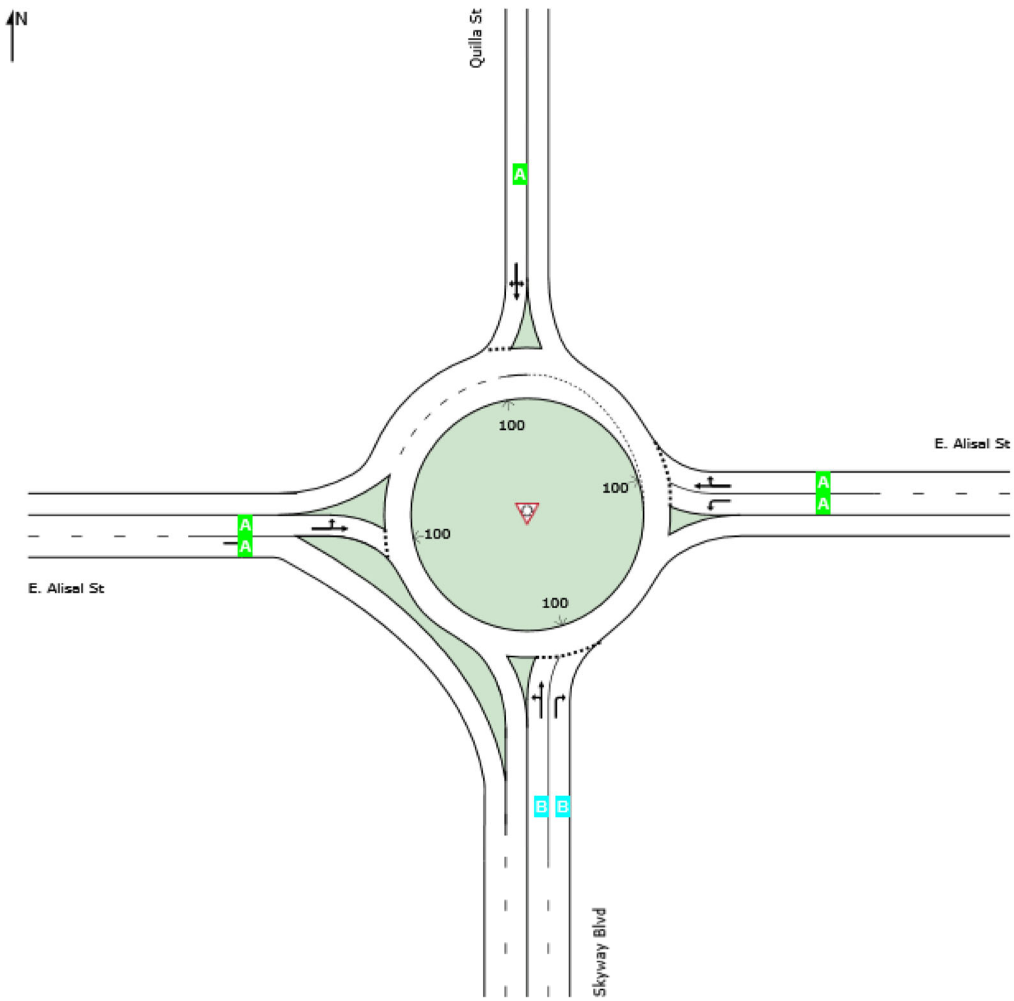
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - EX]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection						
Int Delay, s/veh	4.4					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	215	0	2	2	3	282
Future Vol, veh/h	215	0	2	2	3	282
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	291	0	3	3	4	381

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	385	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	954	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	954	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.3	4.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	954	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.3	-	-
HCM Control Delay (s)	8.8	-	10.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	90	30	352	393	696	321	144	80	32	215
v/c Ratio	0.87	0.33	0.59	0.25	0.99	0.97	0.26	0.08	0.37	0.86
Control Delay	109.8	57.7	28.6	19.7	64.6	86.3	31.0	0.8	61.1	70.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	109.8	57.7	28.6	19.7	64.6	86.3	31.0	0.8	61.1	70.0
Queue Length 50th (ft)	64	21	79	91	~490	228	80	0	22	128
Queue Length 95th (ft)	#141	46	94	121	#631	#352	122	5	49	#206
Internal Link Dist (ft)		256			427		121			526
Turn Bay Length (ft)	150			200				50		
Base Capacity (vph)	104	384	598	1599	701	332	553	1041	97	276
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.87	0.08	0.59	0.25	0.99	0.97	0.26	0.08	0.33	0.78

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	289	322	511	60	263	118	66	26	99	77
Future Volume (veh/h)	74	25	289	322	511	60	263	118	66	26	99	77
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	1500	1085	1589	1870	1693	1693	1752	1781	1485	1263	1752	1752
Adj Flow Rate, veh/h	90	30	352	393	623	73	321	144	0	32	121	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	21	2	14	14	10	8	28	43	10	10
Cap, veh/h	103	70	627	1468	619	73	334	572		34	136	106
Arrive On Green	0.07	0.06	0.06	0.42	0.42	0.42	0.20	0.32	0.00	0.03	0.15	0.15
Sat Flow, veh/h	1428	1085	2370	3456	1487	174	1668	1781	1259	1203	914	710
Grp Volume(v), veh/h	90	30	352	393	0	696	321	144	0	32	0	215
Grp Sat Flow(s),veh/h/ln	1428	1085	1185	1728	0	1661	1668	1781	1259	1203	0	1624
Q Serve(g_s), s	6.8	2.9	3.6	8.1	0.0	45.5	20.8	6.5	0.0	2.9	0.0	14.2
Cycle Q Clear(g_c), s	6.8	2.9	3.6	8.1	0.0	45.5	20.8	6.5	0.0	2.9	0.0	14.2
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.44
Lane Grp Cap(c), veh/h	103	70	627	1468	0	692	334	572		34	0	242
V/C Ratio(X)	0.87	0.43	0.56	0.27	0.00	1.01	0.96	0.25		0.94	0.00	0.89
Avail Cap(c_a), veh/h	103	337	1210	1468	0	692	334	572		91	0	253
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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.2	49.2	15.7	20.4	0.0	31.9	43.2	27.4	0.0	53.0	0.0	45.6
Incr Delay (d2), s/veh	48.9	1.6	0.3	0.0	0.0	35.7	38.5	0.1	0.0	56.2	0.0	27.9
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	3.8	0.8	2.2	3.1	0.0	23.6	11.8	2.7	0.0	1.4	0.0	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	99.1	50.8	16.0	20.4	0.0	67.6	81.8	27.5	0.0	109.2	0.0	73.5
LnGrp LOS	F	D	B	C	A	F	F	C		F	A	E
Approach Vol, veh/h		472			1089			465	A		247	
Approach Delay, s/veh		34.1			50.6			65.0			78.1	
Approach LOS		C			D			E			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	50.1	12.3	26.4	20.5	11.6	50.8	7.6	39.3				
Change Period (Y+Rc), s	3.7	5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2				
Max Green Setting (Gmax), s	19.5	33.9	21.9	* 17	7.9	45.5	8.3	* 31				
Max Q Clear Time (g_c+I1), s	10.1	5.6	22.8	16.2	8.8	47.5	4.9	8.5				
Green Ext Time (p_c), s	1.2	1.0	0.0	0.1	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 6th Ctrl Delay			53.1									
HCM 6th LOS			D									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	521	166	124	309	92	154
v/c Ratio	0.55	0.08	0.53	0.24	0.35	0.66
Control Delay	17.9	0.8	40.0	5.3	33.3	44.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.9	0.8	40.0	5.3	33.3	44.9
Queue Length 50th (ft)	182	0	58	49	41	71
Queue Length 95th (ft)	305	8	108	84	83	131
Internal Link Dist (ft)	654			606	1684	
Turn Bay Length (ft)		250	400		150	
Base Capacity (vph)	946	2152	290	1268	312	279
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.55	0.08	0.43	0.24	0.29	0.55

Intersection Summary

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	479	153	114	284	85	142
Future Volume (veh/h)	479	153	114	284	85	142
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	521	166	124	309	92	154
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	1004	1843	158	1317	220	196
Arrive On Green	0.55	0.55	0.09	0.72	0.13	0.13
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	521	166	124	309	92	154
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	13.5	1.6	5.2	4.3	3.7	7.2
Cycle Q Clear(g_c), s	13.5	1.6	5.2	4.3	3.7	7.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1004	1843	158	1317	220	196
V/C Ratio(X)	0.52	0.09	0.78	0.23	0.42	0.79
Avail Cap(c_a), veh/h	1004	1843	302	1317	325	289
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.9	4.3	33.6	3.7	30.4	32.0
Incr Delay (d2), s/veh	1.9	0.1	8.3	0.4	1.3	8.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.6	2.4	1.0	1.6	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.8	4.4	41.9	4.1	31.7	40.3
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	687			433	246	
Approach Delay, s/veh	10.8			14.9	37.1	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.8	47.2				60.0		15.5
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	7.2	15.5				6.3		9.2
Green Ext Time (p_c), s	0.1	3.6				1.8		0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	167	24	6	4	16	460
Future Vol, veh/h	167	24	6	4	16	460
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	182	26	7	4	17	500
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.2	8.8	14
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	82%	0%	100%	70%	0%	0%
Vol Thru, %	18%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	30%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	3	111	80	16	460
LT Vol	6	0	111	56	0	0
Through Vol	1	3	0	0	16	0
RT Vol	0	0	0	24	0	460
Lane Flow Rate	8	3	121	87	17	500
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.013	0.005	0.208	0.14	0.025	0.62
Departure Headway (Hd)	6.026	5.612	6.2	5.837	5.171	4.467
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	635	576	610	693	810
Service Time	3.787	3.373	3.975	3.612	2.899	2.195
HCM Lane V/C Ratio	0.014	0.005	0.21	0.143	0.025	0.617
HCM Control Delay	8.9	8.4	10.6	9.6	8	14.2
HCM Lane LOS	A	A	B	A	A	B
HCM 95th-tile Q	0	0	0.8	0.5	0.1	4.4

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	293	0	1	2	3	734
Future Vol, veh/h	293	0	1	2	3	734
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	318	0	1	2	3	798

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	801	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	517	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	517	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.4	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	517	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.325	-	-
HCM Control Delay (s)	12	-	10.4	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	133	58	978	232	286	250	159	145	74	243
v/c Ratio	0.75	0.16	0.71	0.58	0.71	0.81	0.28	0.17	0.45	0.69
Control Delay	62.0	25.7	19.2	39.1	37.6	53.3	23.4	2.9	42.1	35.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.0	25.7	19.2	39.1	37.6	53.3	23.4	2.9	42.1	35.6
Queue Length 50th (ft)	66	23	206	56	126	120	61	0	35	94
Queue Length 95th (ft)	#154	54	285	91	#237	#236	113	29	75	#193
Internal Link Dist (ft)		256			427		121			526
Turn Bay Length (ft)	150			120				50		
Base Capacity (vph)	177	367	1392	432	400	320	561	848	194	353
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.75	0.16	0.70	0.54	0.71	0.78	0.28	0.17	0.38	0.69

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	900	213	233	30	230	146	133	68	133	90
Future Volume (veh/h)	122	53	900	213	233	30	230	146	133	68	133	90
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	1811	1485	1841	1796	1515	1515	1752	1752	1811	1618	1767	1767
Adj Flow Rate, veh/h	133	58	978	232	253	33	250	159	0	74	145	98
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, %	6	28	4	7	26	26	10	10	6	19	9	9
Cap, veh/h	165	406	1226	322	360	47	289	597		91	222	150
Arrive On Green	0.10	0.27	0.27	0.10	0.27	0.27	0.17	0.34	0.00	0.06	0.23	0.23
Sat Flow, veh/h	1725	1485	2745	3319	1313	171	1668	1752	1535	1541	982	664
Grp Volume(v), veh/h	133	58	978	232	0	286	250	159	0	74	0	243
Grp Sat Flow(s),veh/h/ln	1725	1485	1373	1659	0	1484	1668	1752	1535	1541	0	1646
Q Serve(g_s), s	5.8	2.3	21.0	5.2	0.0	13.3	11.2	5.1	0.0	3.6	0.0	10.3
Cycle Q Clear(g_c), s	5.8	2.3	21.0	5.2	0.0	13.3	11.2	5.1	0.0	3.6	0.0	10.3
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	165	406	1226	322	0	407	289	597		91	0	373
V/C Ratio(X)	0.80	0.14	0.80	0.72	0.00	0.70	0.87	0.27		0.82	0.00	0.65
Avail Cap(c_a), veh/h	186	406	1226	453	0	407	336	597		205	0	373
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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.0	21.1	18.3	33.7	0.0	25.1	30.9	18.4	0.0	35.8	0.0	27.0
Incr Delay (d2), s/veh	20.9	0.7	5.5	3.3	0.0	9.7	18.4	1.1	0.0	15.9	0.0	8.6
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	0.9	7.2	2.1	0.0	5.3	5.6	2.0	0.0	1.8	0.0	4.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.9	21.9	23.8	37.0	0.0	34.8	49.3	19.5	0.0	51.6	0.0	35.6
LnGrp LOS	D	C	C	D	A	C	D	B		D	A	D
Approach Vol, veh/h		1169			518			409	A		317	
Approach Delay, s/veh		27.2			35.8			37.7			39.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	26.3	17.8	21.6	11.1	26.4	9.0	30.4
Change Period (Y+Rc), s	3.7	5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	10.5	18.9	15.5	* 17	8.3	21.1	10.2	* 23
Max Q Clear Time (g_c+I1), s	7.2	23.0	13.2	12.3	7.8	15.3	5.6	7.1
Green Ext Time (p_c), s	0.2	0.0	0.2	0.6	0.0	0.7	0.1	0.6

Intersection Summary		
HCM 6th Ctrl Delay		32.4
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	720	496	351	365	90	179
v/c Ratio	0.88	0.26	1.22	0.29	0.33	0.72
Control Delay	35.5	4.0	159.3	5.7	32.6	49.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.5	4.0	159.3	5.7	32.6	49.4
Queue Length 50th (ft)	322	34	~222	63	40	84
Queue Length 95th (ft)	#543	52	#381	101	82	#167
Internal Link Dist (ft)	654			609	1684	
Turn Bay Length (ft)		250	400		150	
Base Capacity (vph)	814	1946	287	1256	309	276
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.88	0.25	1.22	0.29	0.29	0.65

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	456	323	336	83	165
Future Volume (veh/h)	662	456	323	336	83	165
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	720	496	351	365	90	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	839	1637	297	1294	246	219
Arrive On Green	0.46	0.46	0.17	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	720	496	351	365	90	179
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	26.9	6.8	13.0	5.6	3.6	8.6
Cycle Q Clear(g_c), s	26.9	6.8	13.0	5.6	3.6	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	839	1637	297	1294	246	219
V/C Ratio(X)	0.86	0.30	1.18	0.28	0.37	0.82
Avail Cap(c_a), veh/h	839	1637	297	1294	320	284
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.7	7.6	31.9	4.2	29.9	32.0
Incr Delay (d2), s/veh	11.1	0.5	111.3	0.5	0.9	13.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	2.5	14.2	1.5	1.5	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.8	8.1	143.2	4.8	30.8	45.2
LnGrp LOS	C	A	F	A	C	D
Approach Vol, veh/h	1216			716	269	
Approach Delay, s/veh	20.9			72.6	40.4	
Approach LOS	C			E	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.0	41.0				60.0		16.8
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	15.0	28.9				7.6		10.6
Green Ext Time (p_c), s	0.0	3.3				2.1		0.3

Intersection Summary			
HCM 6th Ctrl Delay			40.1
HCM 6th LOS			D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	23.3
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	710	25	20	67	0	199
Future Vol, veh/h	710	25	20	67	0	199
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	772	27	22	73	0	216
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	27.7	10.6	12.4
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	47%	0%	100%	90%	0%	0%
Vol Thru, %	53%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	10%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	45	473	262	0	199
LT Vol	20	0	473	237	0	0
Through Vol	22	45	0	0	0	0
RT Vol	0	0	0	25	0	199
Lane Flow Rate	46	49	514	284	0	216
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.092	0.094	0.863	0.468	0	0.367
Departure Headway (Hd)	7.235	6.994	6.037	5.922	6.828	6.114
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	495	512	602	612	0	588
Service Time	4.978	4.737	3.755	3.639	4.567	3.853
HCM Lane V/C Ratio	0.093	0.096	0.854	0.464	0	0.367
HCM Control Delay	10.7	10.5	35.4	13.8	9.6	12.4
HCM Lane LOS	B	B	E	B	N	B
HCM 95th-tile Q	0.3	0.3	9.7	2.5	0	1.7

C. EXISTING PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection						
Int Delay, s/veh	4.7					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	238	0	2	2	3	290
Future Vol, veh/h	238	0	2	2	3	290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	322	0	3	3	4	392

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	396	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	944	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	944	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	4.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	944	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.332	-	-
HCM Control Delay (s)	8.8	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.5	-	-

HCM 6th Signalized Intersection Summary
2: Terven Ave/Terven Avenue & Airport Boulevard/US 101 SB Ramps

09/05/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	0	351	511	60	265	122	76	26	110	77
Future Volume (veh/h)	74	25	0	351	511	60	265	122	76	26	110	77
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	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	90	30	0	428	623	73	323	149	0	32	134	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	108	163	0	418	897	105	324	149		62	260	271
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1428	1085	0	1781	2900	339	1179	544	1259	334	1401	1459
Grp Volume(v), veh/h	90	30	0	428	345	351	472	0	0	166	0	94
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1631	1723	0	1259	1735	0	1459
Q Serve(g_s), s	7.0	2.7	0.0	26.3	21.2	21.2	30.7	0.0	0.0	9.7	0.0	6.3
Cycle Q Clear(g_c), s	7.0	2.7	0.0	26.3	21.2	21.2	30.7	0.0	0.0	9.7	0.0	6.3
Prop In Lane	1.00		0.00	1.00		0.21	0.68		1.00	0.19		1.00
Lane Grp Cap(c), veh/h	108	163	0	418	497	505	473	0		322	0	271
V/C Ratio(X)	0.83	0.18	0.00	1.03	0.69	0.70	1.00	0.00		0.52	0.00	0.35
Avail Cap(c_a), veh/h	271	163	0	418	497	505	473	0		322	0	271
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.6	0.0	43.0	34.1	34.1	40.7	0.0	0.0	41.2	0.0	39.8
Incr Delay (d2), s/veh	6.1	2.5	0.0	50.6	7.8	7.7	41.0	0.0	0.0	5.8	0.0	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	2.7	0.8	0.0	16.9	9.0	9.1	17.8	0.0	0.0	4.7	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	44.1	0.0	93.6	41.8	41.8	81.6	0.0	0.0	47.0	0.0	43.3
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		120			1124			472	A		260	
Approach Delay, s/veh		53.9			61.5			81.6			45.7	
Approach LOS		D			E			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	22.2		25.0	12.2	40.0		35.0				
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2				
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8				
Max Q Clear Time (g_c+I1), s	28.3	4.7		11.7	9.0	23.2		32.7				
Green Ext Time (p_c), s	0.0	0.0		0.5	0.1	2.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			63.8
HCM 6th LOS			E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	153	122	300	85	165
Future Volume (veh/h)	524	153	122	300	85	165
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	570	166	133	326	92	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	974	1839	168	1294	247	219
Arrive On Green	0.53	0.53	0.10	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	570	166	133	326	92	179
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	16.2	1.6	5.7	4.9	3.7	8.6
Cycle Q Clear(g_c), s	16.2	1.6	5.7	4.9	3.7	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	974	1839	168	1294	247	219
V/C Ratio(X)	0.59	0.09	0.79	0.25	0.37	0.82
Avail Cap(c_a), veh/h	974	1839	297	1294	320	284
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.3	4.5	34.0	4.1	29.9	32.0
Incr Delay (d2), s/veh	2.6	0.1	8.0	0.5	0.9	13.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.6	2.6	1.3	1.5	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.9	4.6	42.0	4.6	30.9	45.2
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	736			459	271	
Approach Delay, s/veh	12.6			15.4	40.3	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.4	46.6				60.0		16.8
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	7.7	18.2				6.9		10.6
Green Ext Time (p_c), s	0.1	3.7				1.9		0.3

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	175	24	6	11	39	483
Future Vol, veh/h	175	24	6	11	39	483
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	190	26	7	12	42	525
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.4	8.8	15
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	62%	0%	100%	71%	0%	0%
Vol Thru, %	38%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	29%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	7	117	82	39	483
LT Vol	6	0	117	58	0	0
Through Vol	4	7	0	0	39	0
RT Vol	0	0	0	24	0	483
Lane Flow Rate	11	8	127	89	42	525
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.018	0.013	0.223	0.148	0.061	0.658
Departure Headway (Hd)	6.019	5.705	6.319	5.968	5.214	4.51
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	623	564	596	686	798
Service Time	3.796	3.481	4.108	3.756	2.95	2.246
HCM Lane V/C Ratio	0.019	0.013	0.225	0.149	0.061	0.658
HCM Control Delay	8.9	8.6	10.9	9.8	8.3	15.5
HCM Lane LOS	A	A	B	A	A	C
HCM 95th-tile Q	0.1	0	0.8	0.5	0.2	5

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	297	0	1	2	3	749
Future Vol, veh/h	297	0	1	2	3	749
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	323	0	1	2	3	814

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	817	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	508	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	508	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	508	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.33	-	-
HCM Control Delay (s)	12.1	-	10.5	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	0	218	233	30	234	153	142	68	135	90
Future Volume (veh/h)	122	53	0	218	233	30	234	153	142	68	135	90
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	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	133	58	0	237	253	33	254	166	0	74	147	98
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, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	164	311	0	270	698	90	290	190		111	220	218
Arrive On Green	0.10	0.21	0.00	0.16	0.27	0.27	0.28	0.28	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1725	1485	0	1711	2563	331	1028	672	1535	582	1156	1144
Grp Volume(v), veh/h	133	58	0	237	141	145	420	0	0	221	0	98
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1455	1700	0	1535	1738	0	1144
Q Serve(g_s), s	8.2	3.5	0.0	14.8	8.6	8.8	25.7	0.0	0.0	12.9	0.0	8.3
Cycle Q Clear(g_c), s	8.2	3.5	0.0	14.8	8.6	8.8	25.7	0.0	0.0	12.9	0.0	8.3
Prop In Lane	1.00		0.00	1.00		0.23	0.60		1.00	0.33		1.00
Lane Grp Cap(c), veh/h	164	311	0	270	392	396	480	0		331	0	218
V/C Ratio(X)	0.81	0.19	0.00	0.88	0.36	0.37	0.87	0.00		0.67	0.00	0.45
Avail Cap(c_a), veh/h	337	311	0	413	392	396	480	0		331	0	218
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.4	35.5	0.0	44.9	32.0	32.1	37.3	0.0	0.0	40.9	0.0	39.1
Incr Delay (d2), s/veh	10.9	1.3	0.0	12.9	2.6	2.6	19.5	0.0	0.0	10.2	0.0	6.6
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	4.1	1.4	0.0	7.0	3.2	3.3	12.7	0.0	0.0	6.5	0.0	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	36.8	0.0	57.8	34.6	34.7	56.7	0.0	0.0	51.1	0.0	45.6
LnGrp LOS	E	D	A	E	C	C	E	A		D	A	D
Approach Vol, veh/h		191			523			420	A		319	
Approach Delay, s/veh		52.5			45.1			56.7			49.4	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	20.9	28.2		25.0	14.1	35.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	29.7		30.8
Max Q Clear Time (g_c+I1), s	16.8	5.5		14.9	10.2	10.8		27.7
Green Ext Time (p_c), s	0.4	0.1		0.8	0.3	1.4		0.7

Intersection Summary	
HCM 6th Ctrl Delay	50.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	670	456	338	366	83	169
Future Volume (veh/h)	670	456	338	366	83	169
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	728	496	367	398	90	184
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	836	1641	296	1290	252	224
Arrive On Green	0.45	0.45	0.17	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	728	496	367	398	90	184
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	27.5	6.8	13.0	6.4	3.6	8.8
Cycle Q Clear(g_c), s	27.5	6.8	13.0	6.4	3.6	8.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	836	1641	296	1290	252	224
V/C Ratio(X)	0.87	0.30	1.24	0.31	0.36	0.82
Avail Cap(c_a), veh/h	836	1641	296	1290	318	283
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	7.6	32.0	4.4	29.8	32.0
Incr Delay (d2), s/veh	12.0	0.5	133.8	0.6	0.9	14.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.6	2.6	16.1	1.7	1.5	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.0	8.1	165.9	5.0	30.7	46.2
LnGrp LOS	C	A	F	A	C	D
Approach Vol, veh/h	1224			765	274	
Approach Delay, s/veh	21.7			82.2	41.1	
Approach LOS	C			F	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.0	41.0				60.0		17.1
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	15.0	29.5				8.4		10.8
Green Ext Time (p_c), s	0.0	3.1				2.4		0.3

Intersection Summary		
HCM 6th Ctrl Delay		44.5
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	25.2
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	725	25	20	81	4	203
Future Vol, veh/h	725	25	20	81	4	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	788	27	22	88	4	221
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	30.6	10.8	12.6
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	43%	0%	100%	91%	0%	0%
Vol Thru, %	57%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	54	483	267	4	203
LT Vol	20	0	483	242	0	0
Through Vol	27	54	0	0	4	0
RT Vol	0	0	0	25	0	203
Lane Flow Rate	51	59	525	290	4	221
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.103	0.115	0.891	0.482	0.008	0.38
Departure Headway (Hd)	7.292	7.074	6.104	5.991	6.907	6.193
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	491	507	594	603	518	580
Service Time	5.04	4.823	3.826	3.713	4.651	3.936
HCM Lane V/C Ratio	0.104	0.116	0.884	0.481	0.008	0.381
HCM Control Delay	10.9	10.7	39.6	14.2	9.7	12.7
HCM Lane LOS	B	B	E	B	A	B
HCM 95th-tile Q	0.3	0.4	10.6	2.6	0	1.8

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - EX + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	20	1.0	0.051	3.6	LOS A	0.3	6.6	0.37	0.19	0.37	33.6
8	T1	38	1.0	0.051	3.6	LOS A	0.3	6.6	0.37	0.19	0.37	35.1
18	R2	105	3.0	0.075	3.1	LOS A	0.4	10.6	0.36	0.18	0.36	35.0
Approach		164	2.3	0.075	3.3	LOS A	0.4	10.6	0.36	0.19	0.36	34.9
East: E. Alisal St												
1	L2	262	10.0	0.214	4.8	LOS A	1.2	32.0	0.23	0.10	0.23	32.5
6	T1	319	0.0	0.203	3.9	LOS A	1.1	28.7	0.20	0.08	0.20	34.6
16	R2	3	0.0	0.203	3.9	LOS A	1.1	28.7	0.20	0.08	0.20	34.8
Approach		584	4.5	0.214	4.3	LOS A	1.2	32.0	0.22	0.09	0.22	33.4
North: Quilla St												
7	L2	5	0.0	0.365	8.1	LOS A	1.6	41.3	0.58	0.56	0.58	33.8
4	T1	281	1.0	0.365	8.2	LOS A	1.6	41.3	0.58	0.56	0.58	33.6
14	R2	39	0.0	0.365	8.1	LOS A	1.6	41.3	0.58	0.56	0.58	30.5
Approach		326	0.9	0.365	8.2	LOS A	1.6	41.3	0.58	0.56	0.58	33.3
West: E. Alisal St												
5	L2	5	0.0	0.155	4.4	LOS A	1.0	24.8	0.63	0.47	0.63	34.2
2	T1	173	3.0	0.155	4.5	LOS A	1.0	24.8	0.63	0.47	0.63	33.9
12	R2	101	2.0	0.062	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		280	2.6	0.155	2.9	LOS A	1.0	24.8	0.40	0.30	0.40	34.8
All Vehicles		1353	3.0	0.365	4.8	LOS A	1.6	41.3	0.36	0.26	0.36	33.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

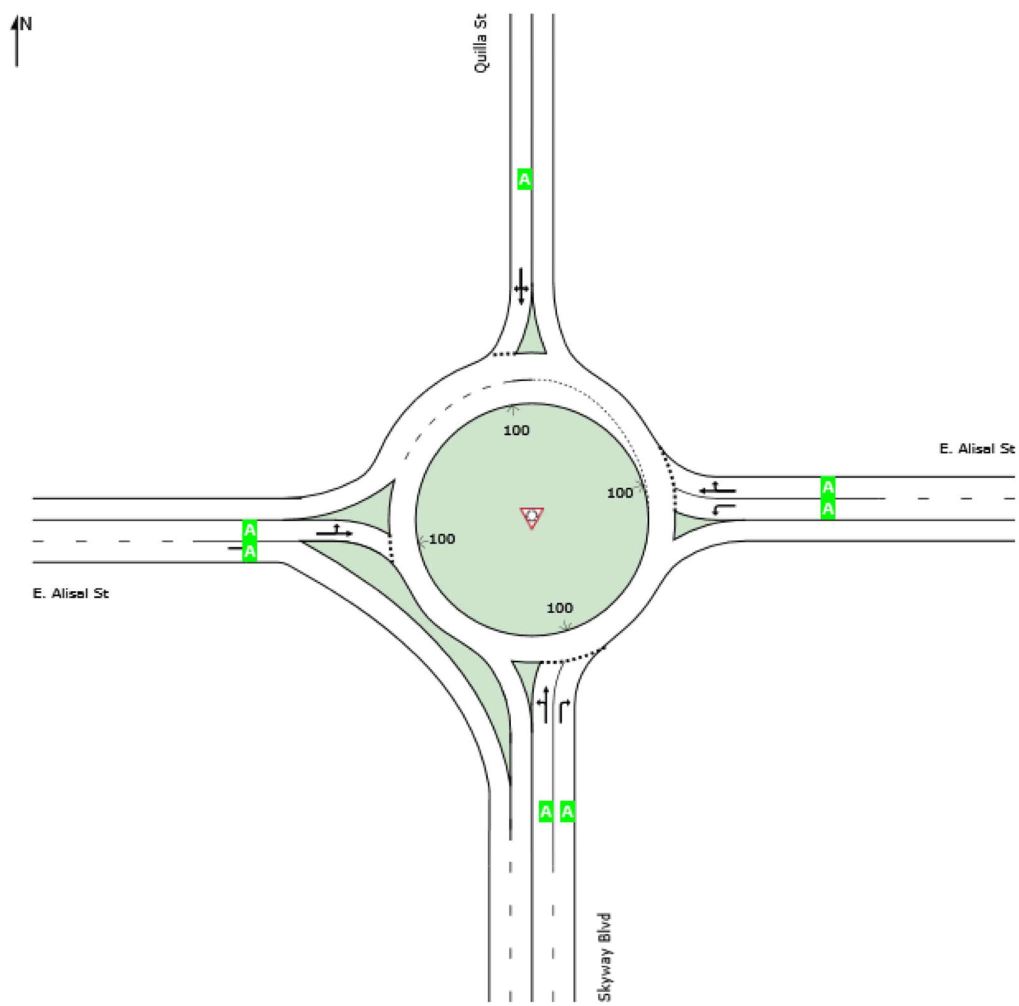
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - EX + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - EX + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	195	1.0	0.611	13.8	LOS B	6.9	174.2	0.88	0.96	1.24	27.7
8	T1	320	1.0	0.611	13.8	LOS B	6.9	174.2	0.88	0.96	1.24	30.3
18	R2	712	3.0	0.659	12.8	LOS B	9.0	231.1	0.90	0.95	1.28	30.4
Approach		1227	2.2	0.659	13.2	LOS B	9.0	231.1	0.90	0.96	1.27	30.0
East: E. Alisal St												
1	L2	162	10.0	0.227	7.7	LOS A	1.4	38.4	0.73	0.62	0.73	31.3
6	T1	414	0.0	0.386	7.2	LOS A	3.1	78.2	0.78	0.62	0.78	32.3
16	R2	14	0.0	0.386	7.2	LOS A	3.1	78.2	0.78	0.62	0.78	33.1
Approach		589	2.7	0.386	7.4	LOS A	3.1	78.2	0.77	0.62	0.77	31.9
North: Quilla St												
7	L2	17	0.0	0.257	7.8	LOS A	1.3	31.9	0.67	0.64	0.67	33.8
4	T1	104	1.0	0.257	7.8	LOS A	1.3	31.9	0.67	0.64	0.67	33.6
14	R2	70	0.0	0.257	7.8	LOS A	1.3	31.9	0.67	0.64	0.67	30.4
Approach		191	0.5	0.257	7.8	LOS A	1.3	31.9	0.67	0.64	0.67	32.6
West: E. Alisal St												
5	L2	27	0.0	0.424	6.7	LOS A	3.0	76.6	0.56	0.39	0.56	32.6
2	T1	537	3.0	0.424	6.8	LOS A	3.0	76.6	0.56	0.39	0.56	32.3
12	R2	76	2.0	0.046	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		639	2.8	0.424	6.0	LOS A	3.0	76.6	0.49	0.34	0.49	32.8
All Vehicles		2647	2.3	0.659	9.8	LOS A	9.0	231.1	0.75	0.71	0.92	31.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

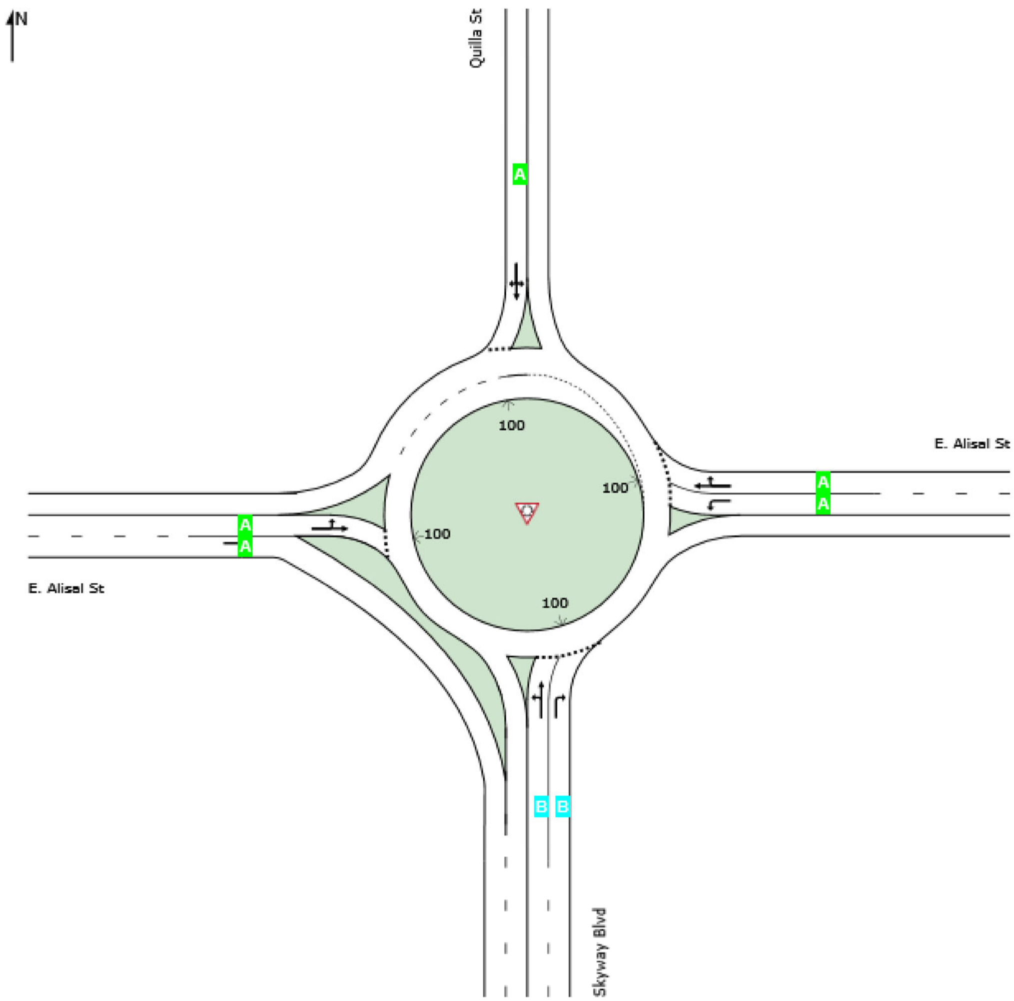
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - EX + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	238	0	2	2	3	290
Future Vol, veh/h	238	0	2	2	3	290
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	322	0	3	3	4	392

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	396	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	944	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	944	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	4.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	944	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.332	-	-
HCM Control Delay (s)	8.8	-	10.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.5	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	294	351	511	60	265	122	76	26	110	77
Future Volume (veh/h)	74	25	294	351	511	60	265	122	76	26	110	77
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	1500	1085	1589	1870	1693	1693	1752	1781	1485	1263	1752	1752
Adj Flow Rate, veh/h	90	30	359	428	623	73	323	149	0	32	134	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	21	2	14	14	10	8	28	43	10	10
Cap, veh/h	103	69	627	1401	612	72	335	583		34	148	104
Arrive On Green	0.07	0.06	0.06	0.41	0.41	0.41	0.20	0.33	0.00	0.03	0.15	0.15
Sat Flow, veh/h	1428	1085	2370	3456	1487	174	1668	1781	1259	1203	958	672
Grp Volume(v), veh/h	90	30	359	428	0	696	323	149	0	32	0	228
Grp Sat Flow(s),veh/h/ln	1428	1085	1185	1728	0	1661	1668	1781	1259	1203	0	1631
Q Serve(g_s), s	6.9	2.9	3.8	9.2	0.0	45.3	21.1	6.8	0.0	2.9	0.0	15.1
Cycle Q Clear(g_c), s	6.9	2.9	3.8	9.2	0.0	45.3	21.1	6.8	0.0	2.9	0.0	15.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	103	69	627	1401	0	684	335	583		34	0	252
V/C Ratio(X)	0.88	0.43	0.57	0.31	0.00	1.02	0.96	0.26		0.94	0.00	0.90
Avail Cap(c_a), veh/h	103	320	1174	1401	0	684	335	583		91	0	252
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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	49.6	15.7	22.2	0.0	32.4	43.6	27.2	0.0	53.3	0.0	45.7
Incr Delay (d2), s/veh	50.7	1.6	0.3	0.0	0.0	38.8	39.4	0.1	0.0	56.9	0.0	32.0
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	3.9	0.8	2.2	3.6	0.0	24.1	12.0	2.8	0.0	1.4	0.0	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.2	51.2	16.1	22.2	0.0	71.2	82.9	27.3	0.0	110.2	0.0	77.7
LnGrp LOS	F	D	B	C	A	F	F	C		F	A	E
Approach Vol, veh/h		479			1124			472	A		260	
Approach Delay, s/veh		34.3			52.6			65.4			81.7	
Approach LOS		C			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.9	12.3	26.6	21.2	11.6	50.6	7.6	40.2
Change Period (Y+Rc), s	5.3	* 5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	20.8	* 32	22.1	* 17	7.9	45.3	8.3	* 31
Max Q Clear Time (g_c+I1), s	11.2	5.8	23.1	17.1	8.9	47.3	4.9	8.8
Green Ext Time (p_c), s	0.6	1.0	0.0	0.0	0.0	0.0	0.0	0.4

Intersection Summary	
HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	153	122	300	85	165
Future Volume (veh/h)	524	153	122	300	85	165
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	570	166	133	326	92	179
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	974	1839	168	1294	247	219
Arrive On Green	0.53	0.53	0.10	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	570	166	133	326	92	179
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	16.2	1.6	5.7	4.9	3.7	8.6
Cycle Q Clear(g_c), s	16.2	1.6	5.7	4.9	3.7	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	974	1839	168	1294	247	219
V/C Ratio(X)	0.59	0.09	0.79	0.25	0.37	0.82
Avail Cap(c_a), veh/h	974	1839	297	1294	320	284
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.3	4.5	34.0	4.1	29.9	32.0
Incr Delay (d2), s/veh	2.6	0.1	8.0	0.5	0.9	13.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.6	2.6	1.3	1.5	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	14.9	4.6	42.0	4.6	30.9	45.2
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	736			459	271	
Approach Delay, s/veh	12.6			15.4	40.3	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.4	46.6				60.0		16.8
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	17.7	18.2				6.9		10.6
Green Ext Time (p_c), s	0.1	3.7				1.9		0.3

Intersection Summary			
HCM 6th Ctrl Delay			18.6
HCM 6th LOS			B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	13.6
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	175	24	6	11	39	483
Future Vol, veh/h	175	24	6	11	39	483
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	190	26	7	12	42	525
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.4	8.8	15
HCM LOS	B	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	62%	0%	100%	71%	0%	0%
Vol Thru, %	38%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	29%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	7	117	82	39	483
LT Vol	6	0	117	58	0	0
Through Vol	4	7	0	0	39	0
RT Vol	0	0	0	24	0	483
Lane Flow Rate	11	8	127	89	42	525
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.018	0.013	0.223	0.148	0.061	0.658
Departure Headway (Hd)	6.019	5.705	6.319	5.968	5.214	4.51
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	591	623	564	596	686	798
Service Time	3.796	3.481	4.108	3.756	2.95	2.246
HCM Lane V/C Ratio	0.019	0.013	0.225	0.149	0.061	0.658
HCM Control Delay	8.9	8.6	10.9	9.8	8.3	15.5
HCM Lane LOS	A	A	B	A	A	C
HCM 95th-tile Q	0.1	0	0.8	0.5	0.2	5

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	297	0	1	2	3	749
Future Vol, veh/h	297	0	1	2	3	749
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	323	0	1	2	3	814

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	817	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	508	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	508	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	508	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.33	-	-
HCM Control Delay (s)	12.1	-	10.5	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	1.4	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	901	218	233	30	234	153	142	68	135	90
Future Volume (veh/h)	122	53	901	218	233	30	234	153	142	68	135	90
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	1811	1485	1841	1796	1515	1515	1752	1752	1811	1618	1767	1767
Adj Flow Rate, veh/h	133	58	979	237	253	33	254	166	0	74	147	98
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, %	6	28	4	7	26	26	10	10	6	19	9	9
Cap, veh/h	171	358	1164	346	354	46	305	548		90	186	124
Arrive On Green	0.10	0.24	0.24	0.10	0.27	0.27	0.18	0.31	0.00	0.06	0.19	0.19
Sat Flow, veh/h	1725	1485	2745	3319	1313	171	1668	1752	1535	1541	988	659
Grp Volume(v), veh/h	133	58	979	237	0	286	254	166	0	74	0	245
Grp Sat Flow(s),veh/h/ln	1725	1485	1373	1659	0	1484	1668	1752	1535	1541	0	1647
Q Serve(g_s), s	5.1	2.1	9.4	4.7	0.0	11.9	10.0	4.9	0.0	3.2	0.0	9.7
Cycle Q Clear(g_c), s	5.1	2.1	9.4	4.7	0.0	11.9	10.0	4.9	0.0	3.2	0.0	9.7
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.40
Lane Grp Cap(c), veh/h	171	358	1164	346	0	401	305	548		90	0	310
V/C Ratio(X)	0.78	0.16	0.84	0.68	0.00	0.71	0.83	0.30		0.82	0.00	0.79
Avail Cap(c_a), veh/h	337	687	1771	658	0	690	600	915		265	0	551
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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.0	20.4	5.1	29.4	0.0	22.5	26.8	17.8	0.0	31.7	0.0	26.4
Incr Delay (d2), s/veh	8.9	0.2	2.4	2.4	0.0	2.4	5.9	0.3	0.0	16.2	0.0	4.5
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	2.5	0.7	2.6	1.8	0.0	3.9	4.1	1.8	0.0	1.6	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	20.6	7.4	31.8	0.0	24.9	32.7	18.1	0.0	47.9	0.0	30.8
LnGrp LOS	D	C	A	C	A	C	C	B		D	A	C
Approach Vol, veh/h		1170			523			420	A		319	
Approach Delay, s/veh		11.7			28.0			26.9			34.8	
Approach LOS		B			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.4	21.7	17.0	17.0	10.4	23.7	8.5	25.5				
Change Period (Y+Rc), s	5.3	* 5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2				
Max Green Setting (Gmax), s	13.5	* 32	24.5	* 23	13.3	31.7	11.7	* 36				
Max Q Clear Time (g_c+I1), s	6.7	11.4	12.0	11.7	7.1	13.9	5.2	6.9				
Green Ext Time (p_c), s	0.4	5.0	0.6	1.1	0.2	1.4	0.1	0.8				
Intersection Summary												
HCM 6th Ctrl Delay			20.9									
HCM 6th LOS			C									

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations							
Traffic Volume (veh/h)	670	456	338	366	83	169	
Future Volume (veh/h)	670	456	338	366	83	169	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	
Work Zone On Approach	No			No	No		
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841	
Adj Flow Rate, veh/h	728	496	367	398	90	184	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Percent Heavy Veh, %	4	4	4	4	4	4	
Cap, veh/h	836	1641	296	1290	252	224	
Arrive On Green	0.45	0.45	0.17	0.70	0.14	0.14	
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560	
Grp Volume(v), veh/h	728	496	367	398	90	184	
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560	
Q Serve(g_s), s	27.5	6.8	13.0	6.4	3.6	8.8	
Cycle Q Clear(g_c), s	27.5	6.8	13.0	6.4	3.6	8.8	
Prop In Lane		1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	836	1641	296	1290	252	224	
V/C Ratio(X)	0.87	0.30	1.24	0.31	0.36	0.82	
Avail Cap(c_a), veh/h	836	1641	296	1290	318	283	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	
Uniform Delay (d), s/veh	19.0	7.6	32.0	4.4	29.8	32.0	
Incr Delay (d2), s/veh	12.0	0.5	133.8	0.6	0.9	14.2	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	12.6	2.6	16.1	1.7	1.5	4.1	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	31.0	8.1	165.9	5.0	30.7	46.2	
LnGrp LOS	C	A	F	A	C	D	
Approach Vol, veh/h	1224			765	274		
Approach Delay, s/veh	21.7			82.2	41.1		
Approach LOS	C			F	D		
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	19.0	41.0				60.0	17.1
Change Period (Y+Rc), s	* 6	* 6				* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54	14.0
Max Q Clear Time (g_c+I1), s	15.0	29.5				8.4	10.8
Green Ext Time (p_c), s	0.0	3.1				2.4	0.3

Intersection Summary				
HCM 6th Ctrl Delay			44.5	
HCM 6th LOS			D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	25.2
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	725	25	20	81	4	203
Future Vol, veh/h	725	25	20	81	4	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	788	27	22	88	4	221
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	30.6	10.8	12.6
HCM LOS	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	43%	0%	100%	91%	0%	0%
Vol Thru, %	57%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	54	483	267	4	203
LT Vol	20	0	483	242	0	0
Through Vol	27	54	0	0	4	0
RT Vol	0	0	0	25	0	203
Lane Flow Rate	51	59	525	290	4	221
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.103	0.115	0.891	0.482	0.008	0.38
Departure Headway (Hd)	7.292	7.074	6.104	5.991	6.907	6.193
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	491	507	594	603	518	580
Service Time	5.04	4.823	3.826	3.713	4.651	3.936
HCM Lane V/C Ratio	0.104	0.116	0.884	0.481	0.008	0.381
HCM Control Delay	10.9	10.7	39.6	14.2	9.7	12.7
HCM Lane LOS	B	B	E	B	A	B
HCM 95th-tile Q	0.3	0.4	10.6	2.6	0	1.8

Kimley»Horn

D. BACKGROUND CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	11.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	228	98	20	28	222	297
Future Vol, veh/h	228	98	20	28	222	297
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	308	132	27	38	300	401

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	392	300	701	0	-	0
Stage 1	300	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	586	558	710	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	564	558	710	-	-	-
Mov Cap-2 Maneuver	564	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.8	4.3	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	710	-	562	-	-
HCM Lane V/C Ratio	0.038	-	0.784	-	-
HCM Control Delay (s)	10.3	-	30.8	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	7.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	0	454	511	60	281	128	90	26	132	77
Future Volume (veh/h)	74	25	0	454	511	60	281	128	90	26	132	77
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	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	90	30	0	554	623	73	343	156	0	32	161	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	108	163	0	418	897	105	325	148		53	269	271
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1428	1085	0	1781	2900	339	1184	538	1259	288	1449	1459
Grp Volume(v), veh/h	90	30	0	554	345	351	499	0	0	193	0	94
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1631	1722	0	1259	1737	0	1459
Q Serve(g_s), s	7.0	2.7	0.0	26.3	21.2	21.2	30.8	0.0	0.0	11.4	0.0	6.3
Cycle Q Clear(g_c), s	7.0	2.7	0.0	26.3	21.2	21.2	30.8	0.0	0.0	11.4	0.0	6.3
Prop In Lane	1.00		0.00	1.00		0.21	0.69		1.00	0.17		1.00
Lane Grp Cap(c), veh/h	108	163	0	418	497	505	473	0		322	0	271
V/C Ratio(X)	0.83	0.18	0.00	1.33	0.69	0.70	1.06	0.00		0.60	0.00	0.35
Avail Cap(c_a), veh/h	271	163	0	418	497	505	473	0		322	0	271
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.6	0.0	43.0	34.1	34.1	40.7	0.0	0.0	41.9	0.0	39.8
Incr Delay (d2), s/veh	6.1	2.5	0.0	162.9	7.8	7.7	56.8	0.0	0.0	8.0	0.0	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	2.7	0.8	0.0	30.0	9.0	9.1	19.9	0.0	0.0	5.7	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.2	44.1	0.0	205.9	41.8	41.8	97.5	0.0	0.0	49.9	0.0	43.3
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		120			1250			499	A		287	
Approach Delay, s/veh		53.9			114.5			97.5			47.7	
Approach LOS		D			F			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	22.2		25.0	12.2	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	28.3	4.7		13.4	9.0	23.2		32.8
Green Ext Time (p_c), s	0.0	0.0		0.6	0.1	2.5		0.0

Intersection Summary		
HCM 6th Ctrl Delay		98.3
HCM 6th LOS		F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	479	369	186	284	137	166
Future Volume (veh/h)	479	369	186	284	137	166
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	521	401	202	309	149	180
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	894	1724	242	1292	250	222
Arrive On Green	0.49	0.49	0.14	0.70	0.14	0.14
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	521	401	202	309	149	180
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	15.6	4.9	8.6	4.6	6.1	8.6
Cycle Q Clear(g_c), s	15.6	4.9	8.6	4.6	6.1	8.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	894	1724	242	1292	250	222
V/C Ratio(X)	0.58	0.23	0.84	0.24	0.60	0.81
Avail Cap(c_a), veh/h	894	1724	296	1292	319	284
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.2	6.2	32.3	4.1	30.9	32.0
Incr Delay (d2), s/veh	2.8	0.3	15.6	0.4	2.3	12.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	1.8	4.4	1.2	2.6	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.0	6.5	47.9	4.6	33.2	44.9
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	922			511	329	
Approach Delay, s/veh	12.4			21.7	39.6	
Approach LOS	B			C	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	16.6	43.4				60.0		17.0
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	10.6	17.6				6.6		10.6
Green Ext Time (p_c), s	0.1	4.4				1.8		0.4

Intersection Summary			
HCM 6th Ctrl Delay			20.2
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	16.2
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	191	24	6	4	16	532
Future Vol, veh/h	191	24	6	4	16	532
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	208	26	7	4	17	578
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	10.8	9	18.5
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	82%	0%	100%	73%	0%	0%
Vol Thru, %	18%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	27%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	7	3	127	88	16	532
LT Vol	6	0	127	64	0	0
Through Vol	1	3	0	0	16	0
RT Vol	0	0	0	24	0	532
Lane Flow Rate	8	3	138	95	17	578
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.014	0.005	0.249	0.163	0.025	0.732
Departure Headway (Hd)	6.31	5.895	6.486	6.156	5.263	4.558
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	571	611	558	586	678	792
Service Time	4.01	3.595	4.186	3.856	3.013	2.309
HCM Lane V/C Ratio	0.014	0.005	0.247	0.162	0.025	0.73
HCM Control Delay	9.1	8.6	11.3	10.1	8.1	18.8
HCM Lane LOS	A	A	B	B	A	C
HCM 95th-tile Q	0	0	1	0.6	0.1	6.6

Intersection	
Int Delay, s/veh	24.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	309	15	139	206	35	757
Future Vol, veh/h	309	15	139	206	35	757
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	336	16	151	224	38	823

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	564	38	861	0	-	0
Stage 1	38	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	466	1040	486	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 321	1040	486	-	-	-
Mov Cap-2 Maneuver	~ 321	-	-	-	-	-
Stage 1	656	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	102.7	6.3	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	486	-	332	-	-
HCM Lane V/C Ratio	0.311	-	1.061	-	-
HCM Control Delay (s)	15.7	-	102.7	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	1.3	-	12.8	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	0	249	233	30	280	174	254	68	152	90
Future Volume (veh/h)	122	53	0	249	233	30	280	174	254	68	152	90
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	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	133	58	0	271	253	33	304	189	0	74	165	98
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, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	163	328	0	301	777	100	282	175		98	218	208
Arrive On Green	0.09	0.22	0.00	0.18	0.30	0.30	0.27	0.27	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1725	1485	0	1711	2563	331	1048	651	1535	539	1201	1144
Grp Volume(v), veh/h	133	58	0	271	141	145	493	0	0	239	0	98
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1455	1699	0	1535	1740	0	1144
Q Serve(g_s), s	8.7	3.6	0.0	17.8	8.7	8.8	30.8	0.0	0.0	14.9	0.0	8.8
Cycle Q Clear(g_c), s	8.7	3.6	0.0	17.8	8.7	8.8	30.8	0.0	0.0	14.9	0.0	8.8
Prop In Lane	1.00		0.00	1.00		0.23	0.62		1.00	0.31		1.00
Lane Grp Cap(c), veh/h	163	328	0	301	436	441	457	0		316	0	208
V/C Ratio(X)	0.82	0.18	0.00	0.90	0.32	0.33	1.08	0.00		0.76	0.00	0.47
Avail Cap(c_a), veh/h	321	328	0	393	436	441	457	0		316	0	208
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.9	36.1	0.0	46.2	30.8	30.9	41.9	0.0	0.0	44.4	0.0	41.9
Incr Delay (d2), s/veh	11.3	1.2	0.0	19.2	2.0	2.0	64.8	0.0	0.0	15.5	0.0	7.5
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	1.4	0.0	8.9	3.1	3.2	20.5	0.0	0.0	7.8	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	37.3	0.0	65.4	32.8	32.9	106.7	0.0	0.0	59.9	0.0	49.4
LnGrp LOS	E	D	A	E	C	C	F	A		E	A	D
Approach Vol, veh/h		191			557			493	A		337	
Approach Delay, s/veh		54.7			48.7			106.7			56.9	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.9	30.6		25.0	14.5	40.0		35.0				
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2				
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8				
Max Q Clear Time (g_c+I1), s	19.8	5.6		16.9	10.7	10.8		32.8				
Green Ext Time (p_c), s	0.4	0.1		0.6	0.3	1.5		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			69.3
HCM 6th LOS			E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	662	541	357	336	282	246
Future Volume (veh/h)	662	541	357	336	282	246
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	720	588	388	365	307	267
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	736	1586	390	1268	312	277
Arrive On Green	0.40	0.40	0.22	0.69	0.18	0.18
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	720	588	388	365	307	267
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	34.7	10.4	19.9	6.9	15.7	15.3
Cycle Q Clear(g_c), s	34.7	10.4	19.9	6.9	15.7	15.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	736	1586	390	1268	312	277
V/C Ratio(X)	0.98	0.37	1.00	0.29	0.99	0.96
Avail Cap(c_a), veh/h	736	1586	390	1268	312	277
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	10.2	35.0	5.4	36.9	36.7
Incr Delay (d2), s/veh	28.2	0.7	44.6	0.6	46.8	43.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.3	4.4	12.7	2.1	10.5	9.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.8	10.9	79.6	6.0	83.6	80.5
LnGrp LOS	D	B	E	A	F	F
Approach Vol, veh/h	1308			753	574	
Approach Delay, s/veh	35.1			43.9	82.2	
Approach LOS	D			D	F	

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	26.0	42.0	68.0	22.0
Change Period (Y+Rc), s	* 6	* 6	* 6	6.0
Max Green Setting (Gmax), s	* 20	* 36	* 62	16.0
Max Q Clear Time (g_c+I1), s	21.9	36.7	8.9	17.7
Green Ext Time (p_c), s	0.0	0.0	2.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	47.8
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	34.6
Intersection LOS	D

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	791	25	20	67	0	233
Future Vol, veh/h	791	25	20	67	0	233
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	860	27	22	73	0	253
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	43	10.9	14.1
HCM LOS	E	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	47%	0%	100%	91%	0%	0%
Vol Thru, %	53%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	45	527	289	0	233
LT Vol	20	0	527	264	0	0
Through Vol	22	45	0	0	0	0
RT Vol	0	0	0	25	0	233
Lane Flow Rate	46	49	573	314	0	253
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.096	0.098	0.985	0.53	0	0.446
Departure Headway (Hd)	7.519	7.277	6.185	6.08	7.048	6.333
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	476	492	590	593	0	567
Service Time	5.272	5.031	3.911	3.806	4.796	4.081
HCM Lane V/C Ratio	0.097	0.1	0.971	0.53	0	0.446
HCM Control Delay	11.1	10.8	58.1	15.5	9.8	14.1
HCM Lane LOS	B	B	F	C	N	B
HCM 95th-tile Q	0.3	0.3	14.1	3.1	0	2.3

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - Background]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles													
Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	18	1.0	0.057	3.6	LOS A	0.3	7.5	0.37	0.20	0.37	33.8
8	T1	48	1.0	0.057	3.6	LOS A	0.3	7.5	0.37	0.20	0.37	35.3
18	R2	107	3.0	0.076	3.2	LOS A	0.4	10.9	0.36	0.18	0.36	35.0
Approach		173	2.2	0.076	3.3	LOS A	0.4	10.9	0.37	0.19	0.37	35.0
East: E. Alisal St												
1	L2	261	10.0	0.215	4.9	LOS A	1.2	32.1	0.25	0.11	0.25	32.5
6	T1	319	0.0	0.204	3.9	LOS A	1.2	28.9	0.22	0.09	0.22	34.6
16	R2	3	0.0	0.204	3.9	LOS A	1.2	28.9	0.22	0.09	0.22	34.8
Approach		583	4.5	0.215	4.3	LOS A	1.2	32.1	0.23	0.10	0.23	33.4
North: Quilla St												
7	L2	5	0.0	0.407	8.8	LOS A	2.1	52.7	0.59	0.61	0.67	33.5
4	T1	318	1.0	0.407	8.8	LOS A	2.1	52.7	0.59	0.61	0.67	33.3
14	R2	39	0.0	0.407	8.8	LOS A	2.1	52.7	0.59	0.61	0.67	30.1
Approach		363	0.9	0.407	8.8	LOS A	2.1	52.7	0.59	0.61	0.67	33.0
West: E. Alisal St												
5	L2	5	0.0	0.159	4.5	LOS A	1.0	26.3	0.66	0.49	0.66	34.1
2	T1	173	3.0	0.159	4.6	LOS A	1.0	26.3	0.66	0.49	0.66	33.8
12	R2	93	2.0	0.056	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		271	2.6	0.159	3.1	LOS A	1.0	26.3	0.43	0.33	0.43	34.6
All Vehicles		1390	2.9	0.407	5.1	LOS A	2.1	52.7	0.38	0.29	0.40	33.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

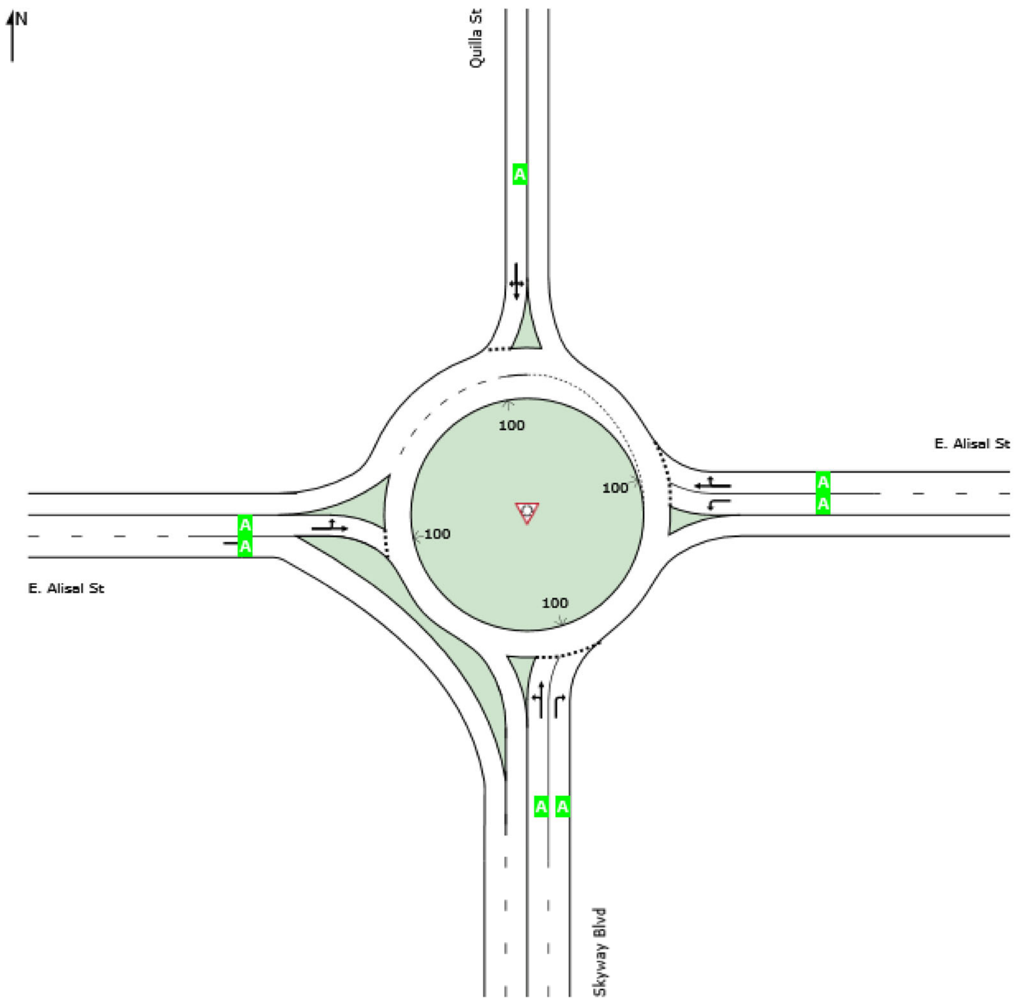
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - Background]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - Background]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	194	1.0	0.668	15.8	LOS C	8.8	221.1	0.92	1.06	1.41	26.9
8	T1	369	1.0	0.668	15.8	LOS C	8.8	221.1	0.92	1.06	1.41	29.6
18	R2	719	3.0	0.669	13.2	LOS B	9.5	242.2	0.91	0.98	1.32	30.2
Approach		1282	2.1	0.669	14.3	LOS B	9.5	242.2	0.92	1.01	1.36	29.6
East: E. Alisal St												
1	L2	171	10.0	0.253	8.4	LOS A	1.6	44.3	0.77	0.67	0.77	31.0
6	T1	414	0.0	0.406	7.8	LOS A	3.4	85.5	0.83	0.68	0.83	31.9
16	R2	14	0.0	0.406	7.8	LOS A	3.4	85.5	0.83	0.68	0.83	32.8
Approach		599	2.9	0.406	8.0	LOS A	3.4	85.5	0.81	0.68	0.81	31.6
North: Quilla St												
7	L2	17	0.0	0.283	8.2	LOS A	1.4	35.9	0.68	0.67	0.68	33.5
4	T1	121	1.0	0.283	8.3	LOS A	1.4	35.9	0.68	0.67	0.68	33.4
14	R2	70	0.0	0.283	8.2	LOS A	1.4	35.9	0.68	0.67	0.68	30.2
Approach		209	0.6	0.283	8.3	LOS A	1.4	35.9	0.68	0.67	0.68	32.5
West: E. Alisal St												
5	L2	27	0.0	0.431	6.9	LOS A	3.1	78.9	0.58	0.42	0.58	32.5
2	T1	537	3.0	0.431	7.0	LOS A	3.1	78.9	0.58	0.42	0.58	32.2
12	R2	78	2.0	0.047	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		641	2.8	0.431	6.1	LOS A	3.1	78.9	0.51	0.37	0.51	32.7
All Vehicles		2731	2.3	0.669	10.6	LOS B	9.5	242.2	0.78	0.76	0.99	30.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

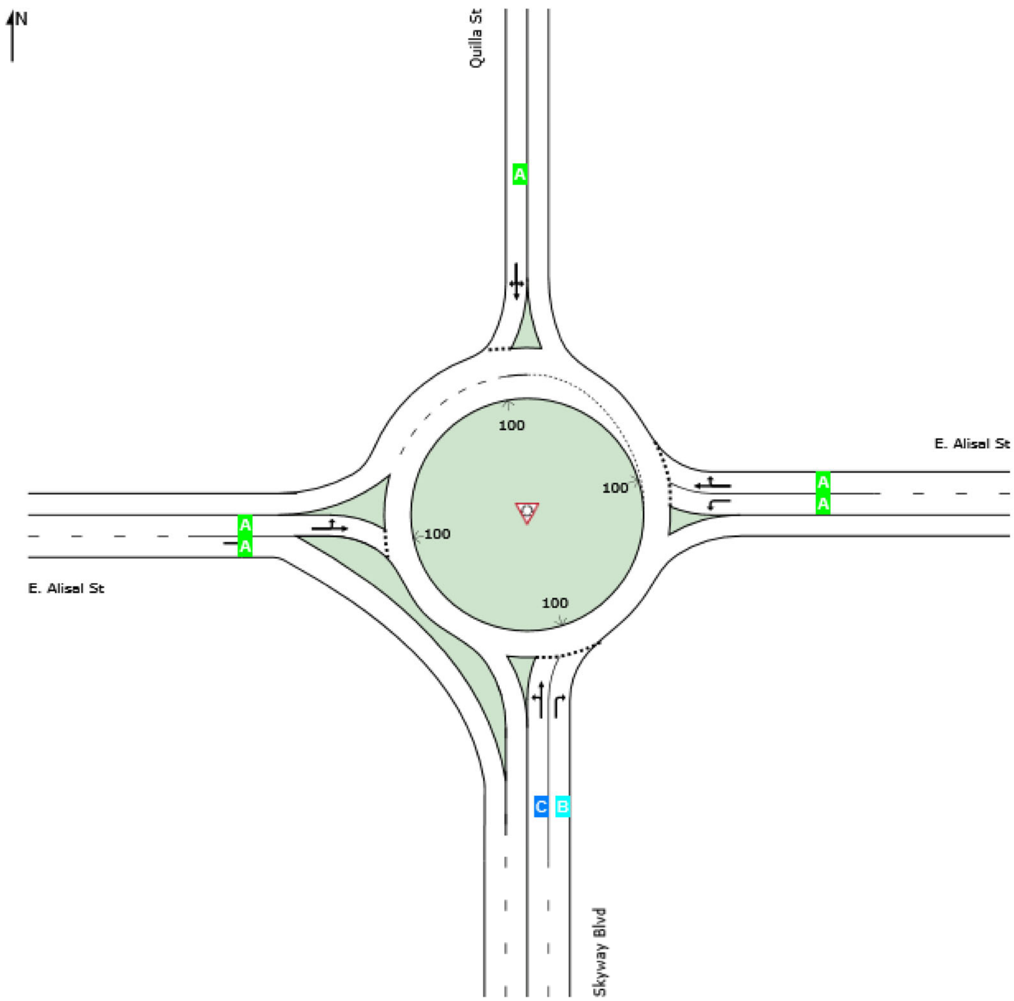
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - Background]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	B	A	A	A	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Kimley»Horn

E. BACKGROUND PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	251	98	20	28	222	305
Future Vol, veh/h	251	98	20	28	222	305
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	339	132	27	38	300	412

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	392	300	712	0	-	0
Stage 1	300	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	586	558	703	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	898	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	564	558	703	-	-	-
Mov Cap-2 Maneuver	564	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	898	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	36.3	4.3	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	703	-	562	-	-
HCM Lane V/C Ratio	0.038	-	0.839	-	-
HCM Control Delay (s)	10.3	-	36.3	-	-
HCM Lane LOS	B	-	E	-	-
HCM 95th %tile Q(veh)	0.1	-	8.8	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	25	0	483	511	60	283	132	100	26	143	77
Future Volume (veh/h)	74	25	0	483	511	60	283	132	100	26	143	77
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	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	90	30	0	589	623	73	345	161	0	32	174	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	110	164	0	417	896	105	322	150		50	272	270
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.19	0.19	0.19
Sat Flow, veh/h	1428	1085	0	1781	2900	339	1175	548	1259	270	1468	1459
Grp Volume(v), veh/h	90	30	0	589	345	351	506	0	0	206	0	94
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1631	1723	0	1259	1738	0	1459
Q Serve(g_s), s	7.0	2.7	0.0	26.3	21.2	21.3	30.8	0.0	0.0	12.3	0.0	6.3
Cycle Q Clear(g_c), s	7.0	2.7	0.0	26.3	21.2	21.3	30.8	0.0	0.0	12.3	0.0	6.3
Prop In Lane	1.00		0.00	1.00		0.21	0.68		1.00	0.16		1.00
Lane Grp Cap(c), veh/h	110	164	0	417	497	504	472	0		322	0	270
V/C Ratio(X)	0.82	0.18	0.00	1.41	0.69	0.70	1.07	0.00		0.64	0.00	0.35
Avail Cap(c_a), veh/h	271	164	0	417	497	504	472	0		322	0	270
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.6	0.0	43.0	34.1	34.2	40.8	0.0	0.0	42.3	0.0	39.9
Incr Delay (d2), s/veh	16.4	2.4	0.0	199.2	7.8	7.8	61.7	0.0	0.0	9.4	0.0	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	3.0	0.8	0.0	34.2	9.0	9.1	20.5	0.0	0.0	6.2	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	67.4	44.0	0.0	242.2	41.9	41.9	102.5	0.0	0.0	51.7	0.0	43.4
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		120			1285			506	A		300	
Approach Delay, s/veh		61.6			133.7			102.5			49.1	
Approach LOS		E			F			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	22.3		25.0	12.3	40.0		35.0				
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2				
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8				
Max Q Clear Time (g_c+I1), s	28.3	4.7		14.3	9.0	23.3		32.8				
Green Ext Time (p_c), s	0.0	0.0		0.8	0.2	3.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			111.2
HCM 6th LOS			F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	369	194	300	137	189
Future Volume (veh/h)	524	369	194	300	137	189
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	570	401	211	326	149	205
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	867	1722	250	1271	274	244
Arrive On Green	0.47	0.47	0.14	0.69	0.16	0.16
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	570	401	211	326	149	205
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	18.6	5.0	9.2	5.2	6.1	10.0
Cycle Q Clear(g_c), s	18.6	5.0	9.2	5.2	6.1	10.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	867	1722	250	1271	274	244
V/C Ratio(X)	0.66	0.23	0.84	0.26	0.54	0.84
Avail Cap(c_a), veh/h	867	1722	291	1271	314	279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.9	6.4	32.7	4.6	30.4	32.1
Incr Delay (d2), s/veh	3.9	0.3	17.6	0.5	1.7	18.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	1.9	4.8	1.4	2.6	4.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	6.7	50.3	5.0	32.1	50.2
LnGrp LOS	B	A	D	A	C	D
Approach Vol, veh/h	971			537	354	
Approach Delay, s/veh	14.4			22.8	42.6	
Approach LOS	B			C	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	17.2	42.8				60.0		18.2
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	11.2	20.6				7.2		12.0
Green Ext Time (p_c), s	0.1	4.4				1.9		0.3

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	17.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	199	24	6	11	39	555
Future Vol, veh/h	199	24	6	11	39	555
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	26	7	12	42	603
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	11.1	9	20.5
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	62%	0%	100%	73%	0%	0%
Vol Thru, %	38%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	27%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	7	133	90	39	555
LT Vol	6	0	133	66	0	0
Through Vol	4	7	0	0	39	0
RT Vol	0	0	0	24	0	555
Lane Flow Rate	11	8	144	98	42	603
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.018	0.013	0.265	0.172	0.063	0.772
Departure Headway (Hd)	6.309	5.994	6.618	6.297	5.308	4.604
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	569	599	547	573	671	784
Service Time	4.026	3.711	4.318	3.997	3.067	2.362
HCM Lane V/C Ratio	0.019	0.013	0.263	0.171	0.063	0.769
HCM Control Delay	9.1	8.8	11.7	10.3	8.4	21.3
HCM Lane LOS	A	A	B	B	A	C
HCM 95th-tile Q	0.1	0	1.1	0.6	0.2	7.6

Intersection						
Int Delay, s/veh	25.9					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	313	15	139	206	35	772
Future Vol, veh/h	313	15	139	206	35	772
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	340	16	151	224	38	839

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	564	38	877	0	-	0
Stage 1	38	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	466	1040	478	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	567	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 319	1040	478	-	-	-
Mov Cap-2 Maneuver	~ 319	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	567	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	110.2	6.4	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	478	-	329	-	-
HCM Lane V/C Ratio	0.316	-	1.084	-	-
HCM Control Delay (s)	16	-	110.2	-	-
HCM Lane LOS	C	-	F	-	-
HCM 95th %tile Q(veh)	1.3	-	13.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	53	0	254	233	30	284	181	263	68	154	90
Future Volume (veh/h)	122	53	0	254	233	30	284	181	263	68	154	90
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	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	133	58	0	276	253	33	309	197	0	74	167	98
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, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	163	324	0	306	777	100	279	178		97	219	208
Arrive On Green	0.09	0.22	0.00	0.18	0.30	0.30	0.27	0.27	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1725	1485	0	1711	2563	331	1038	662	1535	534	1206	1144
Grp Volume(v), veh/h	133	58	0	276	141	145	506	0	0	241	0	98
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1455	1700	0	1535	1740	0	1144
Q Serve(g_s), s	8.7	3.6	0.0	18.1	8.7	8.8	30.8	0.0	0.0	15.1	0.0	8.8
Cycle Q Clear(g_c), s	8.7	3.6	0.0	18.1	8.7	8.8	30.8	0.0	0.0	15.1	0.0	8.8
Prop In Lane	1.00		0.00	1.00		0.23	0.61		1.00	0.31		1.00
Lane Grp Cap(c), veh/h	163	324	0	306	436	441	457	0		316	0	208
V/C Ratio(X)	0.82	0.18	0.00	0.90	0.32	0.33	1.11	0.00		0.76	0.00	0.47
Avail Cap(c_a), veh/h	321	324	0	393	436	441	457	0		316	0	208
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.9	36.4	0.0	46.0	30.8	30.9	41.9	0.0	0.0	44.5	0.0	41.9
Incr Delay (d2), s/veh	11.3	1.2	0.0	19.8	2.0	2.0	74.3	0.0	0.0	15.9	0.0	7.5
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	1.4	0.0	9.1	3.1	3.2	21.8	0.0	0.0	7.9	0.0	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	37.6	0.0	65.8	32.8	32.9	116.2	0.0	0.0	60.4	0.0	49.4
LnGrp LOS	E	D	A	E	C	C	F	A		E	A	D
Approach Vol, veh/h		191			562			506	A		339	
Approach Delay, s/veh		54.7			49.0			116.2			57.2	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.2	30.3		25.0	14.5	40.0		35.0				
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2				
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8				
Max Q Clear Time (g_c+I1), s	20.1	5.6		17.1	10.7	10.8		32.8				
Green Ext Time (p_c), s	0.4	0.1		0.6	0.3	1.5		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		72.7
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	670	541	372	366	282	250
Future Volume (veh/h)	670	541	372	366	282	250
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	728	588	404	398	307	272
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	736	1586	390	1268	312	277
Arrive On Green	0.40	0.40	0.22	0.69	0.18	0.18
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	728	588	404	398	307	272
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	35.3	10.4	20.0	7.7	15.7	15.6
Cycle Q Clear(g_c), s	35.3	10.4	20.0	7.7	15.7	15.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	736	1586	390	1268	312	277
V/C Ratio(X)	0.99	0.37	1.04	0.31	0.99	0.98
Avail Cap(c_a), veh/h	736	1586	390	1268	312	277
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	10.2	35.0	5.6	36.9	36.8
Incr Delay (d2), s/veh	30.5	0.7	55.5	0.6	46.8	48.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.0	4.4	13.9	2.4	10.5	9.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	57.3	10.9	90.5	6.2	83.6	85.4
LnGrp LOS	E	B	F	A	F	F
Approach Vol, veh/h	1316			802	579	
Approach Delay, s/veh	36.6			48.7	84.5	
Approach LOS	D			D	F	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	26.0	42.0				68.0		22.0
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 20	* 36				* 62		16.0
Max Q Clear Time (g_c+I1), s	22.0	37.3				9.7		17.7
Green Ext Time (p_c), s	0.0	0.0				2.4		0.0

Intersection Summary	
HCM 6th Ctrl Delay	50.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	38.1
Intersection LOS	E

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	806	25	20	81	4	237
Future Vol, veh/h	806	25	20	81	4	237
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	876	27	22	88	4	258
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	48.2	11.1	14.4
HCM LOS	E	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	43%	0%	100%	91%	0%	0%
Vol Thru, %	57%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	9%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	54	537	294	4	237
LT Vol	20	0	537	269	0	0
Through Vol	27	54	0	0	4	0
RT Vol	0	0	0	25	0	237
Lane Flow Rate	51	59	584	319	4	258
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.106	0.12	1.014	0.545	0.009	0.459
Departure Headway (Hd)	7.631	7.357	6.253	6.15	7.126	6.41
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	487	584	587	502	562
Service Time	5.331	5.113	3.98	3.877	4.876	4.161
HCM Lane V/C Ratio	0.108	0.121	1	0.543	0.008	0.459
HCM Control Delay	11.2	11.1	65.8	16	9.9	14.5
HCM Lane LOS	B	B	F	C	A	B
HCM 95th-tile Q	0.4	0.4	15.3	3.3	0	2.4

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - Background + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	23	1.0	0.065	3.6	LOS A	0.3	8.8	0.38	0.20	0.38	33.7
8	T1	53	1.0	0.065	3.6	LOS A	0.3	8.8	0.38	0.20	0.38	35.1
18	R2	113	3.0	0.080	3.2	LOS A	0.5	11.5	0.36	0.19	0.36	35.0
Approach		189	2.2	0.080	3.4	LOS A	0.5	11.5	0.37	0.19	0.37	34.9
East: E. Alisal St												
1	L2	276	10.0	0.229	5.0	LOS A	1.3	34.6	0.27	0.12	0.27	32.4
6	T1	319	0.0	0.205	3.9	LOS A	1.2	29.2	0.24	0.10	0.24	34.6
16	R2	3	0.0	0.205	3.9	LOS A	1.2	29.2	0.24	0.10	0.24	34.8
Approach		598	4.6	0.229	4.4	LOS A	1.3	34.6	0.25	0.11	0.25	33.4
North: Quilla St												
7	L2	5	0.0	0.431	9.3	LOS A	2.4	60.1	0.61	0.66	0.74	33.2
4	T1	335	1.0	0.431	9.3	LOS A	2.4	60.1	0.61	0.66	0.74	33.1
14	R2	39	0.0	0.431	9.3	LOS A	2.4	60.1	0.61	0.66	0.74	29.8
Approach		380	0.9	0.431	9.3	LOS A	2.4	60.1	0.61	0.66	0.74	32.8
West: E. Alisal St												
5	L2	5	0.0	0.163	4.6	LOS A	1.1	27.5	0.68	0.52	0.68	34.0
2	T1	173	3.0	0.163	4.8	LOS A	1.1	27.5	0.68	0.52	0.68	33.8
12	R2	110	2.0	0.067	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		288	2.6	0.163	3.0	LOS A	1.1	27.5	0.42	0.32	0.42	34.7
All Vehicles		1455	2.9	0.431	5.3	LOS A	2.4	60.1	0.39	0.31	0.43	33.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

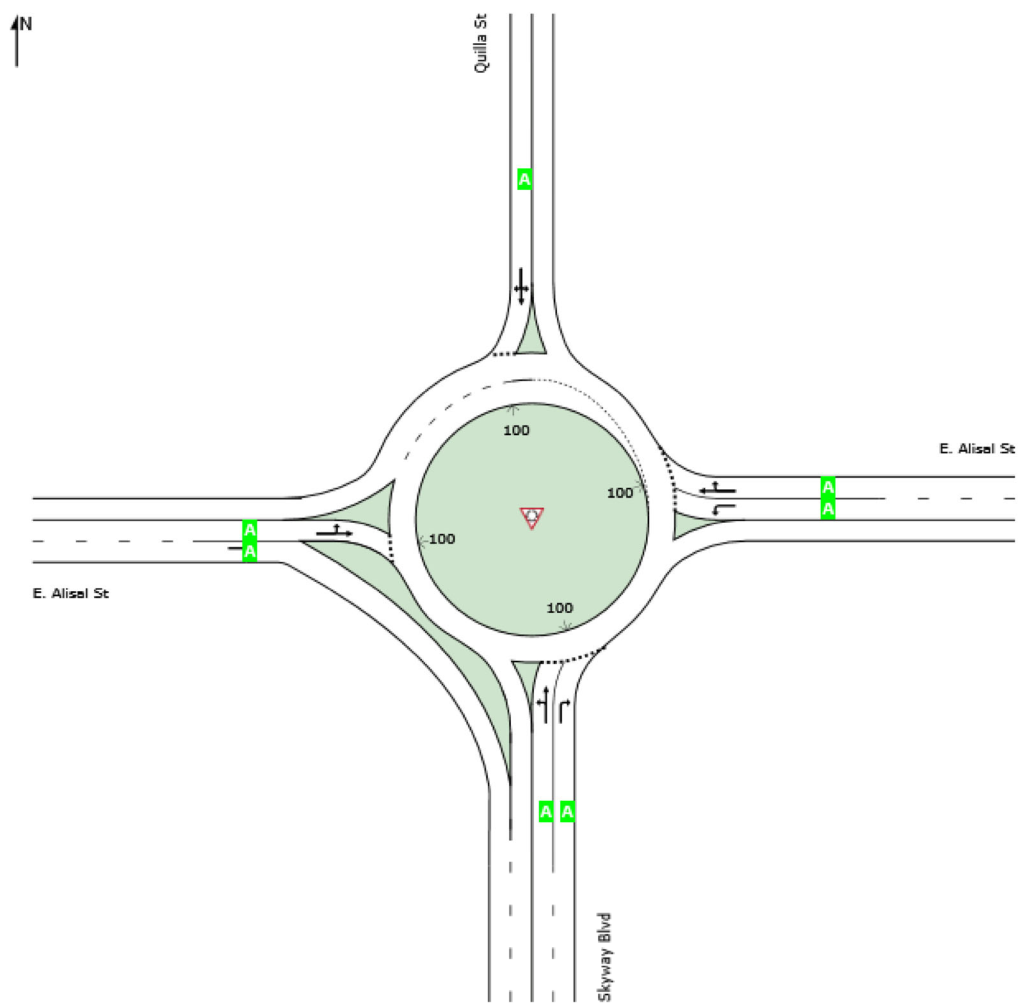
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - Background + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - Background + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	204	1.0	0.694	16.9	LOS C	9.7	245.2	0.94	1.10	1.50	26.5
8	T1	380	1.0	0.694	16.9	LOS C	9.7	245.2	0.94	1.10	1.50	29.2
18	R2	729	3.0	0.679	13.5	LOS B	9.9	252.6	0.92	0.99	1.35	30.1
Approach		1313	2.1	0.694	15.0	LOS C	9.9	252.6	0.93	1.04	1.41	29.3
East: E. Alisal St												
1	L2	173	10.0	0.263	8.7	LOS A	1.7	46.7	0.79	0.70	0.79	30.8
6	T1	414	0.0	0.416	8.1	LOS A	3.6	89.2	0.85	0.70	0.85	31.8
16	R2	14	0.0	0.416	8.1	LOS A	3.6	89.2	0.85	0.70	0.85	32.7
Approach		601	2.9	0.416	8.3	LOS A	3.6	89.2	0.84	0.70	0.84	31.4
North: Quilla St												
7	L2	17	0.0	0.291	8.4	LOS A	1.5	37.1	0.69	0.68	0.69	33.5
4	T1	124	1.0	0.291	8.5	LOS A	1.5	37.1	0.69	0.68	0.69	33.3
14	R2	70	0.0	0.291	8.4	LOS A	1.5	37.1	0.69	0.68	0.69	30.1
Approach		212	0.6	0.291	8.4	LOS A	1.5	37.1	0.69	0.68	0.69	32.4
West: E. Alisal St												
5	L2	27	0.0	0.433	6.9	LOS A	3.1	79.5	0.59	0.42	0.59	32.4
2	T1	537	3.0	0.433	7.0	LOS A	3.1	79.5	0.59	0.42	0.59	32.2
12	R2	81	2.0	0.049	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		645	2.8	0.433	6.1	LOS A	3.1	79.5	0.52	0.37	0.52	32.7
All Vehicles		2770	2.3	0.694	11.0	LOS B	9.9	252.6	0.79	0.78	1.02	30.6

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

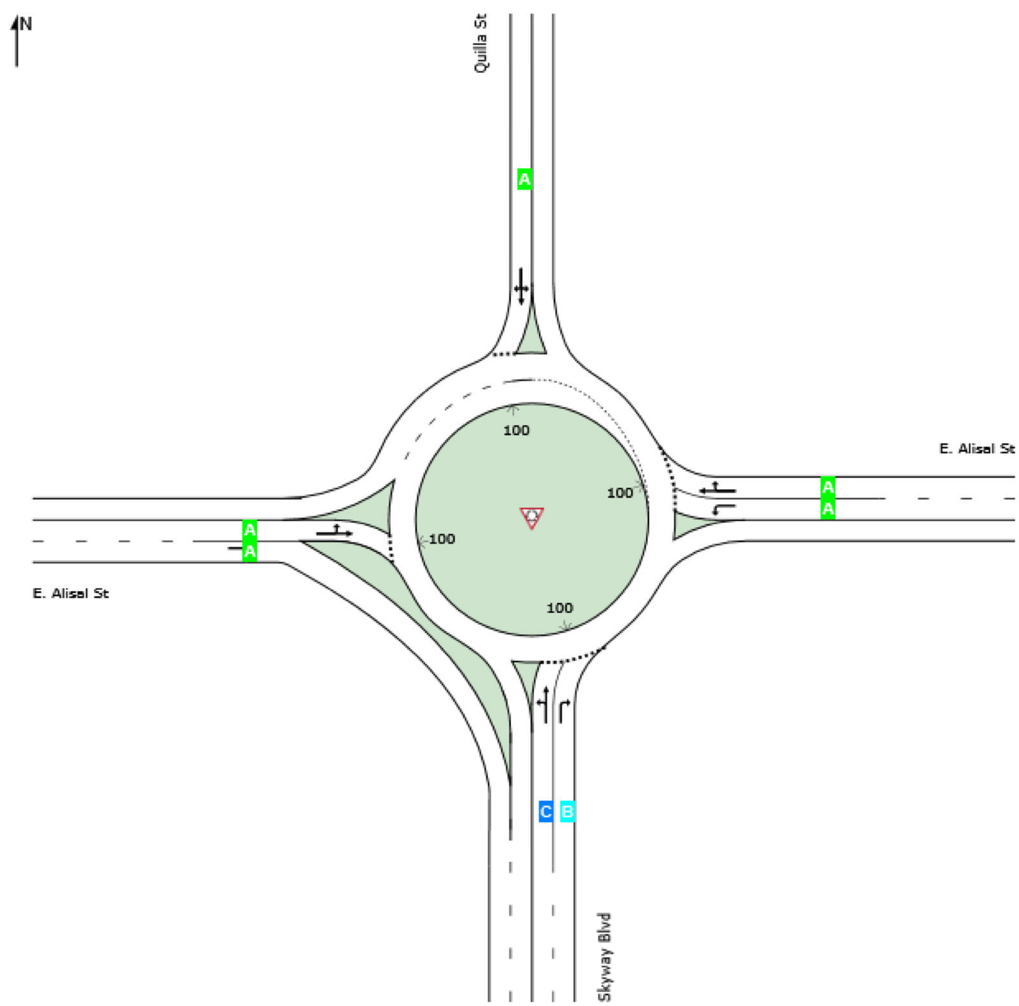
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - Background + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	C	A	A	A	B



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	251	98	20	28	222	305
Future Volume (veh/h)	251	98	20	28	222	305
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1159	1159	1159	1604
Adj Flow Rate, veh/h	339	132	27	38	300	0
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	50	50	50	20
Cap, veh/h	399	155	35	516	368	
Arrive On Green	0.36	0.36	0.03	0.45	0.32	0.00
Sat Flow, veh/h	1099	428	1104	1159	1159	1359
Grp Volume(v), veh/h	472	0	27	38	300	0
Grp Sat Flow(s),veh/h/ln	1531	0	1104	1159	1159	1359
Q Serve(g_s), s	13.3	0.0	1.1	0.9	11.2	0.0
Cycle Q Clear(g_c), s	13.3	0.0	1.1	0.9	11.2	0.0
Prop In Lane	0.72	0.28	1.00			1.00
Lane Grp Cap(c), veh/h	555	0	35	516	368	
V/C Ratio(X)	0.85	0.00	0.77	0.07	0.82	
Avail Cap(c_a), veh/h	1947	0	153	1276	1003	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	13.7	0.0	22.5	7.4	14.7	0.0
Incr Delay (d2), s/veh	3.8	0.0	29.5	0.1	4.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	0.5	0.2	2.8	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	17.5	0.0	52.0	7.5	19.2	0.0
LnGrp LOS	B	A	D	A	B	
Approach Vol, veh/h	472			65	300	A
Approach Delay, s/veh	17.5			26.0	19.2	
Approach LOS	B			C	B	

Timer - Assigned Phs	2	3	4	8
Phs Duration (G+Y+Rc), s	21.5	6.0	19.3	25.3
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	59.5	6.5	40.5	51.5
Max Q Clear Time (g_c+I1), s	15.3	3.1	13.2	2.9
Green Ext Time (p_c), s	1.7	0.0	1.9	0.2

Intersection Summary	
HCM 6th Ctrl Delay	18.8
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.
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)	74	25	345	483	511	60	283	132	100	26	143	77
Future Volume (veh/h)	74	25	345	483	511	60	283	132	100	26	143	77
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	1500	1085	1589	1870	1693	1693	1752	1781	1485	1263	1752	1752
Adj Flow Rate, veh/h	90	30	421	589	623	73	345	161	0	32	174	94
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	21	2	14	14	10	8	28	43	10	10
Cap, veh/h	103	299	1160	675	593	70	356	605		34	165	89
Arrive On Green	0.07	0.28	0.28	0.20	0.40	0.40	0.21	0.34	0.00	0.03	0.15	0.15
Sat Flow, veh/h	1428	1085	2370	3456	1487	174	1668	1781	1259	1203	1070	578
Grp Volume(v), veh/h	90	30	421	589	0	696	345	161	0	32	0	268
Grp Sat Flow(s),veh/h/ln	1428	1085	1185	1728	0	1661	1668	1781	1259	1203	0	1648
Q Serve(g_s), s	6.9	2.3	12.1	18.2	0.0	43.9	22.6	7.2	0.0	2.9	0.0	17.0
Cycle Q Clear(g_c), s	6.9	2.3	12.1	18.2	0.0	43.9	22.6	7.2	0.0	2.9	0.0	17.0
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.35
Lane Grp Cap(c), veh/h	103	299	1160	675	0	663	356	605		34	0	255
V/C Ratio(X)	0.88	0.10	0.36	0.87	0.00	1.05	0.97	0.27		0.94	0.00	1.05
Avail Cap(c_a), veh/h	103	299	1160	845	0	663	356	605		91	0	255
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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.6	29.7	17.4	42.9	0.0	33.1	42.9	26.4	0.0	53.3	0.0	46.5
Incr Delay (d2), s/veh	52.6	0.7	0.9	8.4	0.0	48.7	39.1	1.1	0.0	56.9	0.0	70.8
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	4.0	0.7	3.2	8.3	0.0	25.3	12.8	3.1	0.0	1.4	0.0	12.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.2	30.3	18.3	51.3	0.0	81.8	81.9	27.4	0.0	110.2	0.0	117.3
LnGrp LOS	F	C	B	D	A	F	F	C		F	A	F
Approach Vol, veh/h		541			1285			506	A		300	
Approach Delay, s/veh		33.1			67.8			64.6			116.6	
Approach LOS		C			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.2	35.6	28.0	21.2	11.6	49.2	7.6	41.6
Change Period (Y+Rc), s	3.7	5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	26.9	24.9	23.5	* 17	7.9	43.9	8.3	* 32
Max Q Clear Time (g_c+I1), s	20.2	14.1	24.6	19.0	8.9	45.9	4.9	9.2
Green Ext Time (p_c), s	1.3	1.5	0.0	0.0	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	65.6
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	524	369	194	300	137	189
Future Volume (veh/h)	524	369	194	300	137	189
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	570	401	211	326	149	205
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	923	1769	334	1262	250	223
Arrive On Green	0.50	0.50	0.10	0.69	0.14	0.14
Sat Flow, veh/h	1841	2745	3401	1841	1753	1560
Grp Volume(v), veh/h	570	401	211	326	149	205
Grp Sat Flow(s),veh/h/ln	1841	1373	1700	1841	1753	1560
Q Serve(g_s), s	15.6	4.3	4.2	4.7	5.6	9.1
Cycle Q Clear(g_c), s	15.6	4.3	4.2	4.7	5.6	9.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	923	1769	334	1262	250	223
V/C Ratio(X)	0.62	0.23	0.63	0.26	0.59	0.92
Avail Cap(c_a), veh/h	923	1769	340	1262	250	223
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	5.2	30.3	4.2	28.1	29.6
Incr Delay (d2), s/veh	3.1	0.3	3.6	0.5	3.8	39.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	1.5	1.7	1.2	2.5	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.7	5.5	34.0	4.7	31.9	68.6
LnGrp LOS	B	A	C	A	C	E
Approach Vol, veh/h	971			537	354	
Approach Delay, s/veh	11.5			16.2	53.1	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.9	41.1				54.0		16.0
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 7	* 35				* 48		10.0
Max Q Clear Time (g_c+I1), s	6.2	17.6				6.7		11.1
Green Ext Time (p_c), s	0.1	4.8				1.9		0.0

Intersection Summary			
HCM 6th Ctrl Delay			20.8
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	199	24	6	11	39	555
Future Volume (veh/h)	199	24	6	11	39	555
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	240	0	7	12	42	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	702		532	724	536	
Arrive On Green	0.20	0.00	0.29	0.29	0.29	0.00
Sat Flow, veh/h	3563	1610	701	2611	1870	1585
Grp Volume(v), veh/h	240	0	12	7	42	0
Grp Sat Flow(s),veh/h/ln	1781	1610	1611	1617	1870	1585
Q Serve(g_s), s	1.0	0.0	0.0	0.1	0.3	0.0
Cycle Q Clear(g_c), s	1.0	0.0	0.1	0.1	0.3	0.0
Prop In Lane	1.00	1.00	0.60			1.00
Lane Grp Cap(c), veh/h	702		793	464	536	
V/C Ratio(X)	0.34		0.01	0.02	0.08	
Avail Cap(c_a), veh/h	3678		1933	1669	1931	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	6.0	0.0	4.5	4.5	4.5	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.0	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	0.0	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.3	0.0	4.5	4.5	4.6	0.0
LnGrp LOS	A		A	A	A	
Approach Vol, veh/h	240	A		19	42	A
Approach Delay, s/veh	6.3			4.5	4.6	
Approach LOS	A			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		9.5		7.9		9.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		2.1		3.0		2.3
Green Ext Time (p_c), s		0.0		0.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	6.0
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	313	15	139	206	35	772
Future Volume (veh/h)	313	15	139	206	35	772
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	418	1900	1411	1811
Adj Flow Rate, veh/h	340	16	151	224	38	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	100	0	33	6
Cap, veh/h	412	19	148	1051	134	
Arrive On Green	0.27	0.27	0.37	0.55	0.09	0.00
Sat Flow, veh/h	1514	71	398	1900	1411	1535
Grp Volume(v), veh/h	357	0	151	224	38	0
Grp Sat Flow(s),veh/h/ln	1589	0	398	1900	1411	1535
Q Serve(g_s), s	10.9	0.0	19.2	3.1	1.3	0.0
Cycle Q Clear(g_c), s	10.9	0.0	19.2	3.1	1.3	0.0
Prop In Lane	0.95	0.04	1.00			1.00
Lane Grp Cap(c), veh/h	433	0	148	1051	134	
V/C Ratio(X)	0.82	0.00	1.02	0.21	0.28	
Avail Cap(c_a), veh/h	1663	0	266	2098	492	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	17.6	0.0	16.2	5.8	21.7	0.0
Incr Delay (d2), s/veh	4.0	0.0	47.5	0.1	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	3.3	0.9	0.4	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	0.0	63.7	5.9	22.9	0.0
LnGrp LOS	C	A	F	A	C	
Approach Vol, veh/h	357			375	38	A
Approach Delay, s/veh	21.6			29.2	22.9	
Approach LOS	C			C	C	

Timer - Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		18.5	23.6	9.4				33.0
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		54.0	34.5	18.0				57.0
Max Q Clear Time (g_c+I1), s		12.9	21.2	3.3				5.1
Green Ext Time (p_c), s		1.1	0.4	0.1				1.3

Intersection Summary			
HCM 6th Ctrl Delay			25.4
HCM 6th LOS			C

Notes

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.
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)	122	53	932	254	233	30	284	181	263	68	154	90
Future Volume (veh/h)	122	53	932	254	233	30	284	181	263	68	154	90
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	1811	1485	1841	1796	1515	1515	1752	1752	1811	1618	1767	1767
Adj Flow Rate, veh/h	133	58	1013	276	253	33	309	197	0	74	167	98
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, %	6	28	4	7	26	26	10	10	6	19	9	9
Cap, veh/h	165	343	1203	367	322	42	346	652		91	233	137
Arrive On Green	0.10	0.23	0.23	0.11	0.25	0.25	0.21	0.37	0.00	0.06	0.22	0.22
Sat Flow, veh/h	1725	1485	2745	3319	1313	171	1668	1752	1535	1541	1043	612
Grp Volume(v), veh/h	133	58	1013	276	0	286	309	197	0	74	0	265
Grp Sat Flow(s),veh/h/ln	1725	1485	1373	1659	0	1484	1668	1752	1535	1541	0	1655
Q Serve(g_s), s	5.9	2.4	17.9	6.3	0.0	14.0	14.0	6.2	0.0	3.7	0.0	11.5
Cycle Q Clear(g_c), s	5.9	2.4	17.9	6.3	0.0	14.0	14.0	6.2	0.0	3.7	0.0	11.5
Prop In Lane	1.00		1.00	1.00		0.12	1.00		1.00	1.00		0.37
Lane Grp Cap(c), veh/h	165	343	1203	367	0	364	346	652		91	0	370
V/C Ratio(X)	0.81	0.17	0.84	0.75	0.00	0.79	0.89	0.30		0.81	0.00	0.72
Avail Cap(c_a), veh/h	184	343	1203	516	0	364	375	652		202	0	370
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	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.5	24.0	19.5	33.6	0.0	27.4	30.0	17.3	0.0	36.2	0.0	27.9
Incr Delay (d2), s/veh	21.4	1.1	7.2	3.9	0.0	15.5	21.6	1.2	0.0	15.8	0.0	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	3.4	0.9	8.1	2.6	0.0	6.1	7.2	2.4	0.0	1.8	0.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.8	25.0	26.7	37.4	0.0	43.0	51.6	18.5	0.0	52.0	0.0	39.2
LnGrp LOS	E	C	C	D	A	D	D	B		D	A	D
Approach Vol, veh/h		1204			562			506	A		339	
Approach Delay, s/veh		29.8			40.3			38.7			42.0	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.3	23.2	20.6	21.6	11.1	24.4	9.1	33.2
Change Period (Y+Rc), s	3.7	5.3	4.5	* 4.2	3.7	5.3	4.5	* 4.2
Max Green Setting (Gmax), s	12.1	15.3	17.5	* 17	8.3	19.1	10.2	* 25
Max Q Clear Time (g_c+I1), s	8.3	19.9	16.0	13.5	7.9	16.0	5.7	8.2
Green Ext Time (p_c), s	0.3	0.0	0.2	0.6	0.0	0.4	0.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	670	541	372	366	282	250
Future Volume (veh/h)	670	541	372	366	282	250
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	728	588	404	398	307	272
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	864	1825	456	1234	342	305
Arrive On Green	0.47	0.47	0.13	0.67	0.20	0.20
Sat Flow, veh/h	1841	2745	3401	1841	1753	1560
Grp Volume(v), veh/h	728	588	404	398	307	272
Grp Sat Flow(s),veh/h/ln	1841	1373	1700	1841	1753	1560
Q Serve(g_s), s	31.1	8.2	10.4	8.1	15.3	15.2
Cycle Q Clear(g_c), s	31.1	8.2	10.4	8.1	15.3	15.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	864	1825	456	1234	342	305
V/C Ratio(X)	0.84	0.32	0.89	0.32	0.90	0.89
Avail Cap(c_a), veh/h	864	1825	456	1234	353	314
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.8	6.4	38.1	6.2	35.1	35.1
Incr Delay (d2), s/veh	9.8	0.5	21.5	0.7	24.0	25.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.0	3.7	5.5	2.6	8.6	7.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.6	6.9	59.6	6.9	59.1	60.6
LnGrp LOS	C	A	E	A	E	E
Approach Vol, veh/h	1316			802	579	
Approach Delay, s/veh	20.0			33.4	59.8	
Approach LOS	C			C	E	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	18.0	48.0				66.0		23.5
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 12	* 42				* 60		18.0
Max Q Clear Time (g_c+I1), s	12.4	33.1				10.1		17.3
Green Ext Time (p_c), s	0.0	4.6				2.4		0.2

Intersection Summary			
HCM 6th Ctrl Delay			32.6
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	806	25	20	81	4	237
Future Volume (veh/h)	806	25	20	81	4	237
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1900	1870	1870	1870	1870
Adj Flow Rate, veh/h	901	0	22	88	4	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	0	2	2	2	2
Cap, veh/h	1439		281	644	398	
Arrive On Green	0.40	0.00	0.21	0.21	0.21	0.00
Sat Flow, veh/h	3563	1610	349	3110	1870	1585
Grp Volume(v), veh/h	901	0	63	47	4	0
Grp Sat Flow(s),veh/h/ln	1781	1610	1757	1617	1870	1585
Q Serve(g_s), s	4.7	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	4.7	0.0	0.6	0.6	0.0	0.0
Prop In Lane	1.00	1.00	0.35			1.00
Lane Grp Cap(c), veh/h	1439		581	344	398	
V/C Ratio(X)	0.63		0.11	0.14	0.01	
Avail Cap(c_a), veh/h	2730		1511	1239	1433	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	5.6	0.0	7.5	7.5	7.3	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.1	0.1	0.0	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	6.0	0.0	7.6	7.7	7.3	0.0
LnGrp LOS	A		A	A	A	
Approach Vol, veh/h	901	A		110	4	A
Approach Delay, s/veh	6.0			7.6	7.3	
Approach LOS	A			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		9.5		14.0		9.5
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		18.0		18.0		18.0
Max Q Clear Time (g_c+I1), s		2.6		6.7		2.0
Green Ext Time (p_c), s		0.4		2.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	6.2
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Unsignalized Delay for [EBR, SBR] is excluded from calculations of the approach delay and intersection delay.

F. CUMULATIVE CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection	
Int Delay, s/veh	8.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	195	100	21	31	221	313
Future Vol, veh/h	195	100	21	31	221	313
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	264	135	28	42	299	423

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	397	299	722	0	-	0
Stage 1	299	-	-	-	-	-
Stage 2	98	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	582	558	696	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	559	558	696	-	-	-
Mov Cap-2 Maneuver	559	-	-	-	-	-
Stage 1	692	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	25.8	4.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	696	-	559	-	-
HCM Lane V/C Ratio	0.041	-	0.713	-	-
HCM Control Delay (s)	10.4	-	25.8	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	5.8	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	23	0	435	360	84	289	154	98	10	85	31
Future Volume (veh/h)	76	23	0	435	360	84	289	154	98	10	85	31
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	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	93	28	0	530	439	102	352	188	0	12	104	38
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	112	166	0	416	800	185	308	164		33	289	270
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1428	1085	0	1781	2595	598	1125	601	1259	180	1562	1459
Grp Volume(v), veh/h	93	28	0	530	271	270	540	0	0	116	0	38
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1585	1725	0	1259	1743	0	1459
Q Serve(g_s), s	7.2	2.5	0.0	26.3	15.8	16.0	30.8	0.0	0.0	6.5	0.0	2.5
Cycle Q Clear(g_c), s	7.2	2.5	0.0	26.3	15.8	16.0	30.8	0.0	0.0	6.5	0.0	2.5
Prop In Lane	1.00		0.00	1.00		0.38	0.65		1.00	0.10		1.00
Lane Grp Cap(c), veh/h	112	166	0	416	496	489	472	0		322	0	270
V/C Ratio(X)	0.83	0.17	0.00	1.27	0.55	0.55	1.14	0.00		0.36	0.00	0.14
Avail Cap(c_a), veh/h	270	166	0	416	496	489	472	0		322	0	270
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.4	0.0	43.1	32.3	32.4	40.8	0.0	0.0	40.0	0.0	38.4
Incr Delay (d2), s/veh	6.0	2.2	0.0	140.4	4.3	4.5	87.0	0.0	0.0	3.1	0.0	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	2.8	0.8	0.0	27.3	6.5	6.5	23.9	0.0	0.0	3.1	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	43.6	0.0	183.5	36.6	36.9	127.9	0.0	0.0	43.1	0.0	39.5
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		121			1071			540	A		154	
Approach Delay, s/veh		54.0			109.4			127.9			42.2	
Approach LOS		D			F			F			D	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	22.5		25.0	12.5	40.0		35.0				
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2				
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8				
Max Q Clear Time (g_c+I1), s	28.3	4.5		8.5	9.2	18.0		32.8				
Green Ext Time (p_c), s	0.0	0.0		0.3	0.1	2.2		0.0				

Intersection Summary			
HCM 6th Ctrl Delay			105.6
HCM 6th LOS			F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.
Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	454	414	136	146	137	97
Future Volume (veh/h)	454	414	136	146	137	97
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	493	450	148	159	149	105
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	1000	1800	186	1341	197	176
Arrive On Green	0.54	0.54	0.11	0.73	0.11	0.11
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	493	450	148	159	149	105
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	12.6	5.1	6.2	1.9	6.2	4.8
Cycle Q Clear(g_c), s	12.6	5.1	6.2	1.9	6.2	4.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1000	1800	186	1341	197	176
V/C Ratio(X)	0.49	0.25	0.80	0.12	0.75	0.60
Avail Cap(c_a), veh/h	1000	1800	302	1341	302	269
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.8	5.3	33.0	3.0	32.5	31.9
Incr Delay (d2), s/veh	1.7	0.3	7.6	0.2	5.8	3.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	1.7	2.8	0.4	2.8	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.5	5.7	40.6	3.2	38.2	35.1
LnGrp LOS	B	A	D	A	D	D
Approach Vol, veh/h	943			307	254	
Approach Delay, s/veh	9.2			21.2	36.9	
Approach LOS	A			C	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.0	47.0				61.0		14.5
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 36				* 55		13.0
Max Q Clear Time (g_c+I1), s	8.2	14.6				3.9		8.2
Green Ext Time (p_c), s	0.1	4.7				0.8		0.3

Intersection Summary	
HCM 6th Ctrl Delay	16.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	119	15	3	1	2	321
Future Vol, veh/h	119	15	3	1	2	321
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	129	16	3	1	2	349
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	9.2	8.3	9.9
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	90%	0%	100%	73%	0%	0%
Vol Thru, %	10%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	27%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	3	1	79	55	2	321
LT Vol	3	0	79	40	0	0
Through Vol	0	1	0	0	2	0
RT Vol	0	0	0	15	0	321
Lane Flow Rate	4	1	86	59	2	349
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.006	0.001	0.139	0.09	0.003	0.413
Departure Headway (Hd)	5.684	5.231	5.804	5.474	4.964	4.261
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	631	685	618	654	724	848
Service Time	3.408	2.955	3.538	3.208	2.675	1.973
HCM Lane V/C Ratio	0.006	0.001	0.139	0.09	0.003	0.412
HCM Control Delay	8.4	8	9.5	8.8	7.7	9.9
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	0	0.5	0.3	0	2

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	191	16	142	204	32	125
Future Vol, veh/h	191	16	142	204	32	125
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	208	17	154	222	35	136

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	565	35	171	0	-	0
Stage 1	35	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	465	1044	980	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	392	1044	980	-	-	-
Mov Cap-2 Maneuver	392	-	-	-	-	-
Stage 1	805	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.8	3.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	980	-	412	-	-
HCM Lane V/C Ratio	0.157	-	0.546	-	-
HCM Control Delay (s)	9.4	-	23.8	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.6	-	3.2	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	28	0	235	182	31	144	92	208	38	99	51
Future Volume (veh/h)	75	28	0	235	182	31	144	92	208	38	99	51
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	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	82	30	0	255	198	34	157	100	0	41	108	55
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, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	106	260	0	289	696	117	304	194		95	250	226
Arrive On Green	0.06	0.17	0.00	0.17	0.28	0.28	0.29	0.29	0.00	0.20	0.20	0.20
Sat Flow, veh/h	1725	1485	0	1711	2463	416	1038	661	1535	480	1263	1144
Grp Volume(v), veh/h	82	30	0	255	114	118	257	0	0	149	0	55
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1440	1700	0	1535	1743	0	1144
Q Serve(g_s), s	4.9	1.8	0.0	15.3	6.5	6.7	13.2	0.0	0.0	7.9	0.0	4.3
Cycle Q Clear(g_c), s	4.9	1.8	0.0	15.3	6.5	6.7	13.2	0.0	0.0	7.9	0.0	4.3
Prop In Lane	1.00		0.00	1.00		0.29	0.61		1.00	0.28		1.00
Lane Grp Cap(c), veh/h	106	260	0	289	406	407	498	0		345	0	226
V/C Ratio(X)	0.77	0.12	0.00	0.88	0.28	0.29	0.52	0.00		0.43	0.00	0.24
Avail Cap(c_a), veh/h	349	260	0	428	406	407	498	0		345	0	226
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	36.5	0.0	42.7	29.4	29.5	31.0	0.0	0.0	37.0	0.0	35.5
Incr Delay (d2), s/veh	13.4	0.9	0.0	13.6	1.7	1.8	3.8	0.0	0.0	3.9	0.0	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	2.5	0.7	0.0	7.3	2.4	2.4	5.7	0.0	0.0	3.8	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	37.4	0.0	56.2	31.1	31.3	34.8	0.0	0.0	40.9	0.0	38.1
LnGrp LOS	E	D	A	E	C	C	C	A		D	A	D
Approach Vol, veh/h		112			487			257	A		204	
Approach Delay, s/veh		55.4			44.3			34.8			40.2	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	21.5	23.7		25.0	10.2	35.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	29.7		30.8
Max Q Clear Time (g_c+I1), s	17.3	3.8		9.9	6.9	8.7		15.2
Green Ext Time (p_c), s	0.5	0.1		0.7	0.2	1.1		1.1

Intersection Summary	
HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	421	423	226	175	285	177
Future Volume (veh/h)	421	423	226	175	285	177
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	458	460	246	190	310	192
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	805	1682	285	1242	307	273
Arrive On Green	0.44	0.44	0.16	0.68	0.17	0.17
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	458	460	246	190	310	192
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	14.9	6.2	10.9	3.0	14.0	9.3
Cycle Q Clear(g_c), s	14.9	6.2	10.9	3.0	14.0	9.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	805	1682	285	1242	307	273
V/C Ratio(X)	0.57	0.27	0.86	0.15	1.01	0.70
Avail Cap(c_a), veh/h	805	1682	285	1242	307	273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.8	7.2	32.6	4.7	33.0	31.0
Incr Delay (d2), s/veh	2.9	0.4	27.6	0.3	54.1	7.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	2.6	6.5	0.9	10.3	3.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	7.6	60.2	5.0	87.1	38.9
LnGrp LOS	B	A	E	A	F	D
Approach Vol, veh/h	918			436	502	
Approach Delay, s/veh	13.7			36.1	68.7	
Approach LOS	B			D	E	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.0	41.0				60.0		20.0
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	12.9	16.9				5.0		16.0
Green Ext Time (p_c), s	0.0	4.3				1.0		0.0

Intersection Summary			
HCM 6th Ctrl Delay			33.8
HCM 6th LOS			C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	17.7
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	551	17	20	52	6	340
Future Vol, veh/h	551	17	20	52	6	340
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	599	18	22	57	7	370
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	19.5	10.4	16.4
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	54%	0%	100%	92%	0%	0%
Vol Thru, %	46%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	8%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	35	367	201	6	340
LT Vol	20	0	367	184	0	0
Through Vol	17	35	0	0	6	0
RT Vol	0	0	0	17	0	340
Lane Flow Rate	41	38	399	218	7	370
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.081	0.072	0.707	0.38	0.012	0.591
Departure Headway (Hd)	7.179	6.905	6.379	6.277	6.469	5.757
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	498	518	567	574	553	625
Service Time	4.934	4.659	4.11	4.008	4.212	3.5
HCM Lane V/C Ratio	0.082	0.073	0.704	0.38	0.013	0.592
HCM Control Delay	10.6	10.2	23.1	12.8	9.3	16.5
HCM Lane LOS	B	B	C	B	A	C
HCM 95th-tile Q	0.3	0.2	5.7	1.8	0	3.9

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - CU]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	9	8.0	0.043	5.5	LOS A	0.2	4.0	0.47	0.36	0.47	32.3
8	T1	23	0.0	0.043	5.2	LOS A	0.2	4.0	0.47	0.36	0.47	34.5
18	R2	77	13.0	0.114	6.6	LOS A	0.4	10.9	0.49	0.41	0.49	33.0
Approach		109	9.8	0.114	6.2	LOS A	0.4	10.9	0.48	0.40	0.48	33.2
East: E. Alisal St												
1	L2	237	2.0	0.215	5.2	LOS A	1.0	25.6	0.18	0.07	0.18	32.6
6	T1	411	3.0	0.387	7.3	LOS A	2.2	57.4	0.22	0.09	0.22	32.1
16	R2	12	0.0	0.387	7.2	LOS A	2.2	57.4	0.22	0.09	0.22	33.1
Approach		660	2.6	0.387	6.6	LOS A	2.2	57.4	0.20	0.08	0.20	32.3
North: Quilla St												
7	L2	15	25.0	0.315	12.0	LOS B	1.3	32.2	0.64	0.65	0.68	31.8
4	T1	144	0.0	0.315	10.4	LOS B	1.3	32.2	0.64	0.65	0.68	32.4
14	R2	24	3.0	0.315	10.6	LOS B	1.3	32.2	0.64	0.65	0.68	28.9
Approach		183	2.4	0.315	10.6	LOS B	1.3	32.2	0.64	0.65	0.68	31.9
West: E. Alisal St												
5	L2	13	0.0	0.507	12.3	LOS B	3.4	89.8	0.66	0.75	0.92	29.3
2	T1	351	6.0	0.507	12.6	LOS B	3.4	89.8	0.66	0.75	0.92	29.0
12	R2	111	6.0	0.070	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.2
Approach		476	5.8	0.507	9.6	LOS A	3.4	89.8	0.50	0.57	0.71	30.4
All Vehicles		1427	4.2	0.507	8.1	LOS A	3.4	89.8	0.38	0.34	0.45	31.7

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

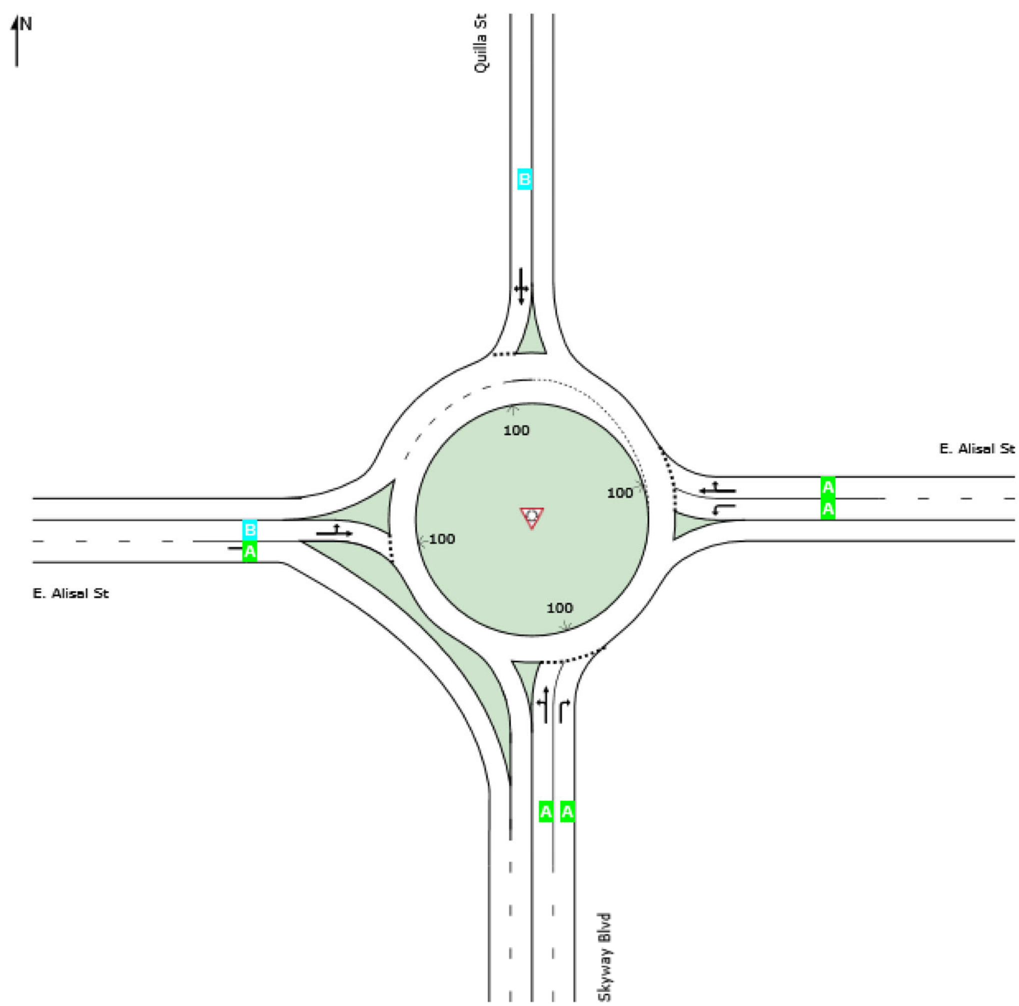
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - CU]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	B	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - CU]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	38	1.0	0.217	6.7	LOS A	0.9	22.5	0.46	0.37	0.46	32.0
8	T1	138	1.0	0.217	6.7	LOS A	0.9	22.5	0.46	0.37	0.46	33.8
18	R2	278	3.0	0.348	8.6	LOS A	1.6	39.9	0.51	0.43	0.51	32.2
Approach		454	2.2	0.348	7.9	LOS A	1.6	39.9	0.49	0.40	0.49	32.7
East: E. Alisal St												
1	L2	138	10.0	0.167	6.1	LOS A	0.6	16.5	0.36	0.24	0.36	32.0
6	T1	334	0.0	0.384	8.3	LOS A	1.9	48.4	0.45	0.33	0.45	31.6
16	R2	15	0.0	0.384	8.3	LOS A	1.9	48.4	0.45	0.33	0.45	32.6
Approach		487	2.8	0.384	7.7	LOS A	1.9	48.4	0.42	0.30	0.42	31.8
North: Quilla St												
7	L2	4	0.0	0.081	6.1	LOS A	0.3	7.2	0.51	0.45	0.51	34.6
4	T1	38	1.0	0.081	6.2	LOS A	0.3	7.2	0.51	0.45	0.51	34.5
14	R2	13	0.0	0.081	6.1	LOS A	0.3	7.2	0.51	0.45	0.51	31.4
Approach		55	0.7	0.081	6.1	LOS A	0.3	7.2	0.51	0.45	0.51	33.9
West: E. Alisal St												
5	L2	13	0.0	0.314	7.4	LOS A	1.4	36.3	0.41	0.30	0.41	32.1
2	T1	264	3.0	0.314	7.5	LOS A	1.4	36.3	0.41	0.30	0.41	31.9
12	R2	24	2.0	0.015	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		301	2.8	0.314	6.9	LOS A	1.4	36.3	0.38	0.27	0.38	32.2
All Vehicles		1298	2.5	0.384	7.5	LOS A	1.9	48.4	0.44	0.34	0.44	32.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

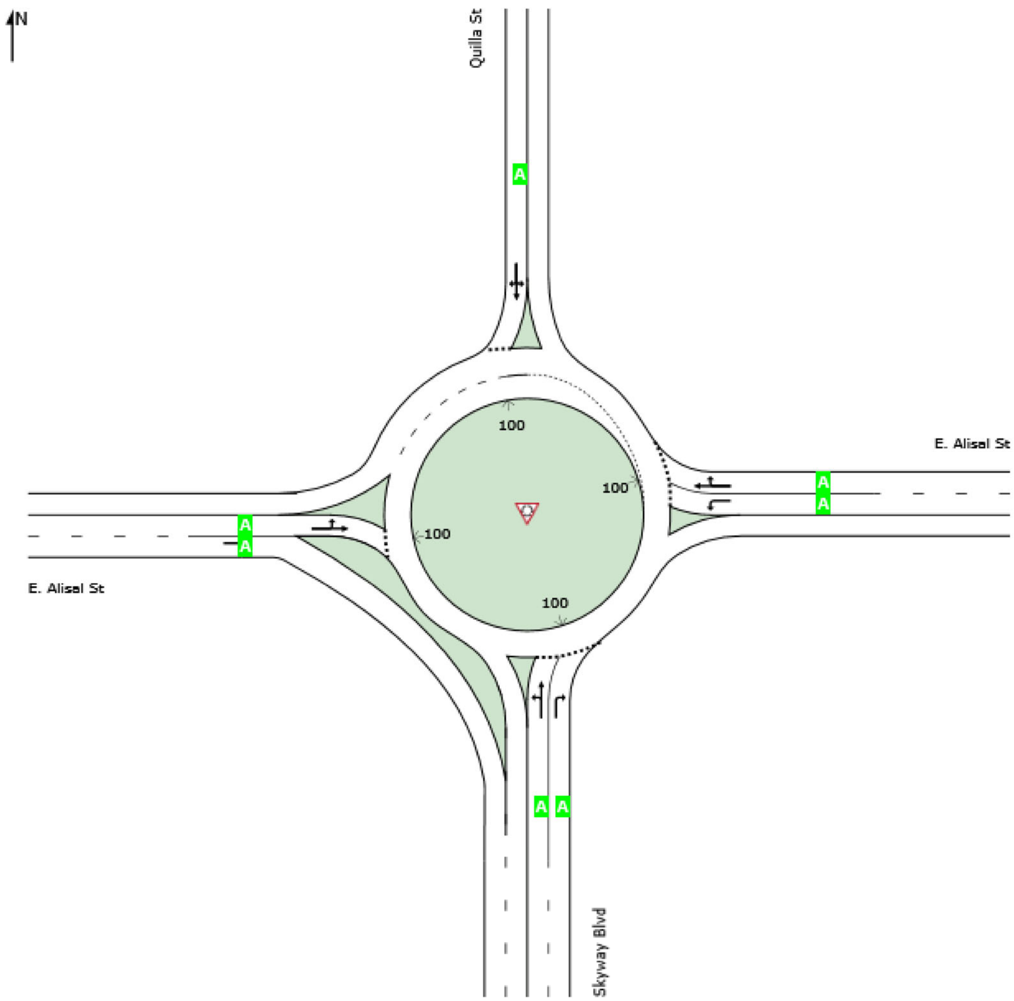
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - CU]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

G. CUMULATIVE PLUS PROJECT CONDITIONS SYNCHRO OUTPUT SHEETS

Intersection						
Int Delay, s/veh	10.6					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	218	100	21	31	221	321
Future Vol, veh/h	218	100	21	31	221	321
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	295	135	28	42	299	434

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	397	299	733	0	-	0
Stage 1	299	-	-	-	-	-
Stage 2	98	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	582	558	689	-	-	-
Stage 1	721	-	-	-	-	-
Stage 2	892	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	558	558	689	-	-	-
Mov Cap-2 Maneuver	558	-	-	-	-	-
Stage 1	691	-	-	-	-	-
Stage 2	892	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	29.8	4.2	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	689	-	558	-	-
HCM Lane V/C Ratio	0.041	-	0.77	-	-
HCM Control Delay (s)	10.4	-	29.8	-	-
HCM Lane LOS	B	-	D	-	-
HCM 95th %tile Q(veh)	0.1	-	7	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	23	0	464	360	84	291	158	108	10	96	31
Future Volume (veh/h)	76	23	0	464	360	84	291	158	108	10	96	31
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	1500	1085	0	1870	1693	1693	1781	1781	1485	1752	1752	1722
Adj Flow Rate, veh/h	93	28	0	566	439	102	355	193	0	12	117	38
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	55	0	2	14	14	8	8	28	10	10	12
Cap, veh/h	112	166	0	416	800	185	306	166		30	292	270
Arrive On Green	0.08	0.15	0.00	0.23	0.31	0.31	0.27	0.27	0.00	0.18	0.18	0.18
Sat Flow, veh/h	1428	1085	0	1781	2595	598	1118	608	1259	162	1581	1459
Grp Volume(v), veh/h	93	28	0	566	271	270	548	0	0	129	0	38
Grp Sat Flow(s),veh/h/ln	1428	1085	0	1781	1608	1585	1726	0	1259	1744	0	1459
Q Serve(g_s), s	7.2	2.5	0.0	26.3	15.8	16.0	30.8	0.0	0.0	7.3	0.0	2.5
Cycle Q Clear(g_c), s	7.2	2.5	0.0	26.3	15.8	16.0	30.8	0.0	0.0	7.3	0.0	2.5
Prop In Lane	1.00		0.00	1.00		0.38	0.65		1.00	0.09		1.00
Lane Grp Cap(c), veh/h	112	166	0	416	496	489	472	0		322	0	270
V/C Ratio(X)	0.83	0.17	0.00	1.36	0.55	0.55	1.16	0.00		0.40	0.00	0.14
Avail Cap(c_a), veh/h	270	166	0	416	496	489	472	0		322	0	270
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.1	41.4	0.0	43.1	32.3	32.4	40.8	0.0	0.0	40.4	0.0	38.4
Incr Delay (d2), s/veh	6.0	2.2	0.0	176.6	4.3	4.5	93.3	0.0	0.0	3.7	0.0	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	2.8	0.8	0.0	31.5	6.5	6.5	24.7	0.0	0.0	3.5	0.0	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	43.6	0.0	219.7	36.6	36.9	134.2	0.0	0.0	44.0	0.0	39.5
LnGrp LOS	E	D	A	F	D	D	F	A		D	A	D
Approach Vol, veh/h		121			1107			548	A		167	
Approach Delay, s/veh		54.0			130.3			134.2			43.0	
Approach LOS		D			F			F			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	30.0	22.5		25.0	12.5	40.0		35.0
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	34.7		30.8
Max Q Clear Time (g_c+I1), s	28.3	4.5		9.3	9.2	18.0		32.8
Green Ext Time (p_c), s	0.0	0.0		0.4	0.1	2.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	119.1
HCM 6th LOS	F

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	499	414	144	162	137	120
Future Volume (veh/h)	499	414	144	162	137	120
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	542	450	157	176	149	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	980	1776	196	1334	201	179
Arrive On Green	0.53	0.53	0.11	0.72	0.11	0.11
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	542	450	157	176	149	130
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	14.5	5.2	6.5	2.2	6.1	6.0
Cycle Q Clear(g_c), s	14.5	5.2	6.5	2.2	6.1	6.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	980	1776	196	1334	201	179
V/C Ratio(X)	0.55	0.25	0.80	0.13	0.74	0.73
Avail Cap(c_a), veh/h	980	1776	306	1334	329	293
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.6	5.6	32.3	3.1	31.9	31.9
Incr Delay (d2), s/veh	2.2	0.3	8.1	0.2	5.3	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.7	3.0	0.5	2.8	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.8	5.9	40.4	3.3	37.3	37.5
LnGrp LOS	B	A	D	A	D	D
Approach Vol, veh/h	992			333	279	
Approach Delay, s/veh	10.2			20.8	37.4	
Approach LOS	B			C	D	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	14.3	45.7				60.0		14.5
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	8.5	16.5				4.2		8.1
Green Ext Time (p_c), s	0.1	4.9				0.9		0.4

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	127	15	3	8	25	344
Future Vol, veh/h	127	15	3	8	25	344
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	138	16	3	9	27	374
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	9.4	8.3	10.3
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	53%	0%	100%	74%	0%	0%
Vol Thru, %	47%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	5	85	57	25	344
LT Vol	3	0	85	42	0	0
Through Vol	3	5	0	0	25	0
RT Vol	0	0	0	15	0	344
Lane Flow Rate	6	6	92	62	27	374
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.01	0.009	0.151	0.097	0.038	0.447
Departure Headway (Hd)	5.581	5.314	5.926	5.611	5.003	4.3
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	673	605	638	718	841
Service Time	3.314	3.047	3.672	3.356	2.719	2.016
HCM Lane V/C Ratio	0.009	0.009	0.152	0.097	0.038	0.445
HCM Control Delay	8.4	8.1	9.7	9	7.9	10.5
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0	0	0.5	0.3	0.1	2.3

Intersection						
Int Delay, s/veh	8.9					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	195	16	142	204	32	140
Future Vol, veh/h	195	16	142	204	32	140
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	212	17	154	222	35	152

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	565	35	187	0	-	0
Stage 1	35	-	-	-	-	-
Stage 2	530	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	465	1044	965	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	391	1044	965	-	-	-
Mov Cap-2 Maneuver	391	-	-	-	-	-
Stage 1	802	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.4	3.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	965	-	410	-	-
HCM Lane V/C Ratio	0.16	-	0.559	-	-
HCM Control Delay (s)	9.4	-	24.4	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.6	-	3.3	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	28	0	240	182	31	148	99	217	38	101	51
Future Volume (veh/h)	75	28	0	240	182	31	148	99	217	38	101	51
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	1811	1485	0	1796	1515	1515	1752	1752	1811	1767	1767	1352
Adj Flow Rate, veh/h	82	30	0	261	198	34	161	108	0	41	110	55
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, %	6	28	0	7	26	26	10	10	6	9	9	37
Cap, veh/h	106	254	0	295	696	117	298	200		94	251	226
Arrive On Green	0.06	0.17	0.00	0.17	0.28	0.28	0.29	0.29	0.00	0.20	0.20	0.20
Sat Flow, veh/h	1725	1485	0	1711	2463	416	1018	683	1535	473	1270	1144
Grp Volume(v), veh/h	82	30	0	261	114	118	269	0	0	151	0	55
Grp Sat Flow(s),veh/h/ln	1725	1485	0	1711	1439	1440	1701	0	1535	1743	0	1144
Q Serve(g_s), s	4.9	1.8	0.0	15.7	6.5	6.7	14.0	0.0	0.0	8.0	0.0	4.3
Cycle Q Clear(g_c), s	4.9	1.8	0.0	15.7	6.5	6.7	14.0	0.0	0.0	8.0	0.0	4.3
Prop In Lane	1.00		0.00	1.00		0.29	0.60		1.00	0.27		1.00
Lane Grp Cap(c), veh/h	106	254	0	295	406	407	498	0		345	0	226
V/C Ratio(X)	0.77	0.12	0.00	0.88	0.28	0.29	0.54	0.00		0.44	0.00	0.24
Avail Cap(c_a), veh/h	349	254	0	428	406	407	498	0		345	0	226
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	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	48.6	36.8	0.0	42.5	29.4	29.5	31.2	0.0	0.0	37.0	0.0	35.5
Incr Delay (d2), s/veh	13.4	0.9	0.0	14.2	1.7	1.8	4.2	0.0	0.0	4.0	0.0	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	2.5	0.7	0.0	7.5	2.4	2.4	6.0	0.0	0.0	3.8	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	37.8	0.0	56.7	31.1	31.3	35.4	0.0	0.0	41.1	0.0	38.1
LnGrp LOS	E	D	A	E	C	C	D	A		D	A	D
Approach Vol, veh/h		112			493			269	A		206	
Approach Delay, s/veh		55.5			44.7			35.4			40.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	21.8	23.3		25.0	10.2	35.0		35.0				
Change Period (Y+Rc), s	3.7	5.3		* 4.2	3.7	5.3		4.2				
Max Green Setting (Gmax), s	26.3	14.7		* 21	21.3	29.7		30.8				
Max Q Clear Time (g_c+I1), s	17.7	3.8		10.0	6.9	8.7		16.0				
Green Ext Time (p_c), s	0.5	0.1		0.7	0.2	1.1		1.2				

Intersection Summary		
HCM 6th Ctrl Delay		42.7
HCM 6th LOS		D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [NBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	429	423	241	205	285	181
Future Volume (veh/h)	429	423	241	205	285	181
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	466	460	262	223	310	197
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	805	1682	285	1242	307	273
Arrive On Green	0.44	0.44	0.16	0.68	0.17	0.17
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	466	460	262	223	310	197
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	15.3	6.2	11.8	3.6	14.0	9.5
Cycle Q Clear(g_c), s	15.3	6.2	11.8	3.6	14.0	9.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	805	1682	285	1242	307	273
V/C Ratio(X)	0.58	0.27	0.92	0.18	1.01	0.72
Avail Cap(c_a), veh/h	805	1682	285	1242	307	273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	7.2	33.0	4.8	33.0	31.2
Incr Delay (d2), s/veh	3.0	0.4	36.2	0.3	54.1	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	2.6	7.5	1.0	10.3	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.0	7.6	69.2	5.1	87.1	40.1
LnGrp LOS	B	A	E	A	F	D
Approach Vol, veh/h	926			485	507	
Approach Delay, s/veh	13.8			39.7	68.8	
Approach LOS	B			D	E	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	19.0	41.0				60.0		20.0
Change Period (Y+Rc), s	* 6	* 6				* 6		6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54		14.0
Max Q Clear Time (g_c+I1), s	13.8	17.3				5.6		16.0
Green Ext Time (p_c), s	0.0	4.3				1.2		0.0

Intersection Summary	
HCM 6th Ctrl Delay	34.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	566	17	20	66	10	344
Future Vol, veh/h	566	17	20	66	10	344
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	615	18	22	72	11	374
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	21	10.6	17.1
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	48%	0%	100%	92%	0%	0%
Vol Thru, %	52%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	8%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	44	377	206	10	344
LT Vol	20	0	377	189	0	0
Through Vol	22	44	0	0	10	0
RT Vol	0	0	0	17	0	344
Lane Flow Rate	46	48	410	224	11	374
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.092	0.093	0.736	0.395	0.02	0.607
Departure Headway (Hd)	7.228	6.984	6.46	6.36	6.554	5.842
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	512	562	566	545	617
Service Time	4.989	4.745	4.195	4.095	4.304	3.592
HCM Lane V/C Ratio	0.093	0.094	0.73	0.396	0.02	0.606
HCM Control Delay	10.7	10.5	25.2	13.2	9.4	17.3
HCM Lane LOS	B	B	D	B	A	C
HCM 95th-tile Q	0.3	0.3	6.2	1.9	0.1	4.1

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_AM - CU + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	Demand Flows HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	95% Back of Queue Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	13	1.0	0.050	5.2	LOS A	0.2	4.5	0.43	0.32	0.43	32.6
8	T1	26	1.0	0.050	5.2	LOS A	0.2	4.5	0.43	0.32	0.43	34.3
18	R2	72	3.0	0.096	5.7	LOS A	0.3	8.9	0.45	0.35	0.45	33.6
Approach		111	2.3	0.096	5.5	LOS A	0.3	8.9	0.44	0.34	0.44	33.7
East: E. Alisal St												
1	L2	221	10.0	0.231	6.0	LOS A	0.9	25.1	0.18	0.08	0.18	32.0
6	T1	359	0.0	0.351	7.0	LOS A	1.8	45.9	0.22	0.09	0.22	32.4
16	R2	11	0.0	0.351	7.0	LOS A	1.8	45.9	0.22	0.09	0.22	33.2
Approach		590	3.7	0.351	6.6	LOS A	1.8	45.9	0.20	0.09	0.20	32.2
North: Quilla St												
7	L2	13	0.0	0.284	9.4	LOS A	1.1	27.8	0.61	0.61	0.61	33.0
4	T1	143	1.0	0.284	9.5	LOS A	1.1	27.8	0.61	0.61	0.61	32.8
14	R2	21	0.0	0.284	9.4	LOS A	1.1	27.8	0.61	0.61	0.61	29.6
Approach		177	0.8	0.284	9.5	LOS A	1.1	27.8	0.61	0.61	0.61	32.5
West: E. Alisal St												
5	L2	12	0.0	0.446	11.2	LOS B	2.5	63.5	0.62	0.65	0.76	29.9
2	T1	306	3.0	0.446	11.3	LOS B	2.5	63.5	0.62	0.65	0.76	29.7
12	R2	114	2.0	0.069	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		432	2.7	0.446	8.3	LOS A	2.5	63.5	0.46	0.48	0.56	31.2
All Vehicles		1310	2.9	0.446	7.5	LOS A	2.5	63.5	0.36	0.31	0.40	32.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

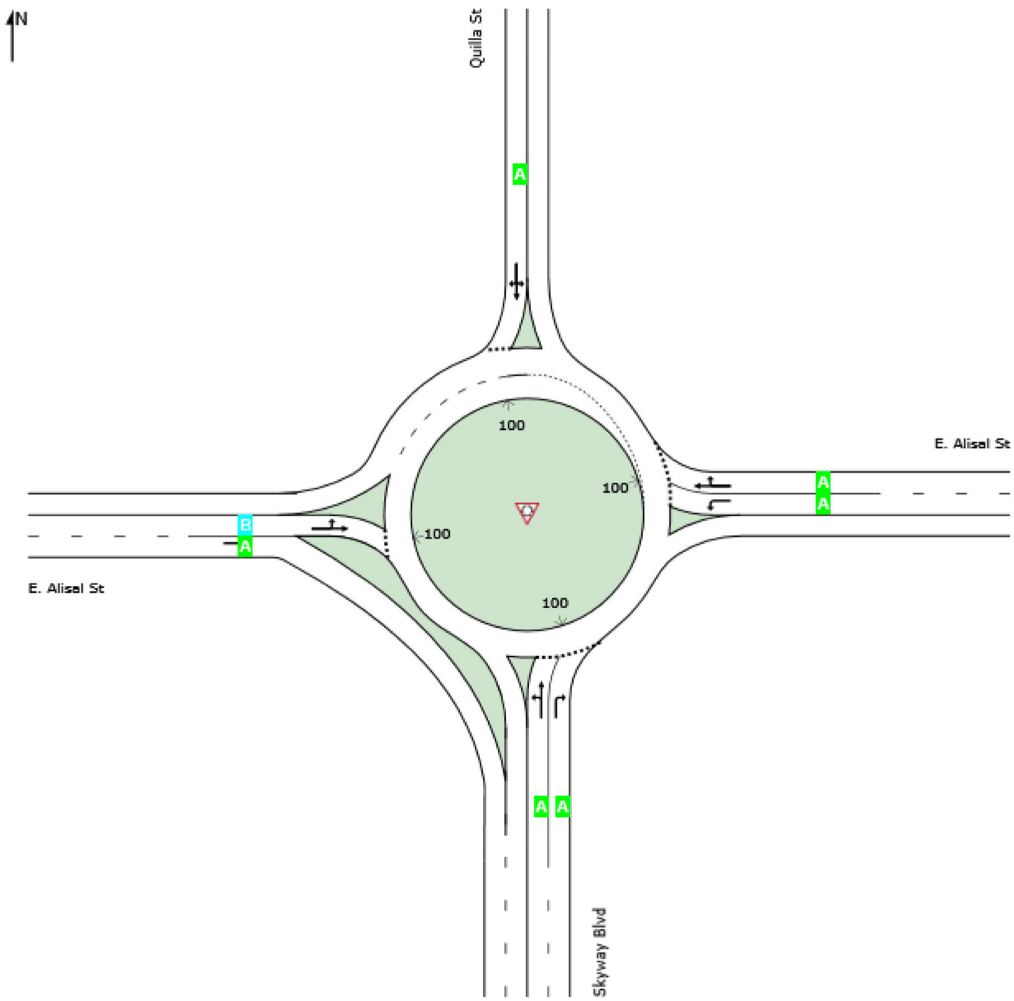
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_AM - CU + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

MOVEMENT SUMMARY

Site: 5 [E. Alisal St @ Skyway Blvd_PM - CU + Proj]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance ft	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed mph
South: Skyway Blvd												
3	L2	49	1.0	0.243	7.1	LOS A	1.0	25.7	0.47	0.38	0.47	31.7
8	T1	149	1.0	0.243	7.1	LOS A	1.0	25.7	0.47	0.38	0.47	33.6
18	R2	287	3.0	0.360	8.8	LOS A	1.6	41.7	0.51	0.43	0.51	32.1
Approach		485	2.2	0.360	8.1	LOS A	1.6	41.7	0.49	0.41	0.49	32.5
East: E. Alisal St												
1	L2	140	10.0	0.174	6.3	LOS A	0.6	17.2	0.38	0.26	0.38	31.9
6	T1	334	0.0	0.392	8.6	LOS A	2.0	49.4	0.47	0.36	0.47	31.4
16	R2	15	0.0	0.392	8.6	LOS A	2.0	49.4	0.47	0.36	0.47	32.5
Approach		489	2.9	0.392	7.9	LOS A	2.0	49.4	0.44	0.33	0.44	31.6
North: Quilla St												
7	L2	4	0.0	0.087	6.2	LOS A	0.3	7.7	0.52	0.47	0.52	34.6
4	T1	41	1.0	0.087	6.3	LOS A	0.3	7.7	0.52	0.47	0.52	34.4
14	R2	13	0.0	0.087	6.2	LOS A	0.3	7.7	0.52	0.47	0.52	31.4
Approach		59	0.7	0.087	6.3	LOS A	0.3	7.7	0.52	0.47	0.52	33.9
West: E. Alisal St												
5	L2	13	0.0	0.316	7.5	LOS A	1.4	36.5	0.42	0.31	0.42	32.1
2	T1	264	3.0	0.316	7.6	LOS A	1.4	36.5	0.42	0.31	0.42	31.9
12	R2	28	2.0	0.017	0.0	LOS A	0.0	0.0	0.00	0.00	0.00	36.3
Approach		304	2.8	0.316	6.9	LOS A	1.4	36.5	0.38	0.28	0.38	32.2
All Vehicles		1337	2.5	0.392	7.7	LOS A	2.0	49.4	0.45	0.35	0.45	32.2

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: US HCM 6.
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.
Gap-Acceptance Capacity: Traditional M1.
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

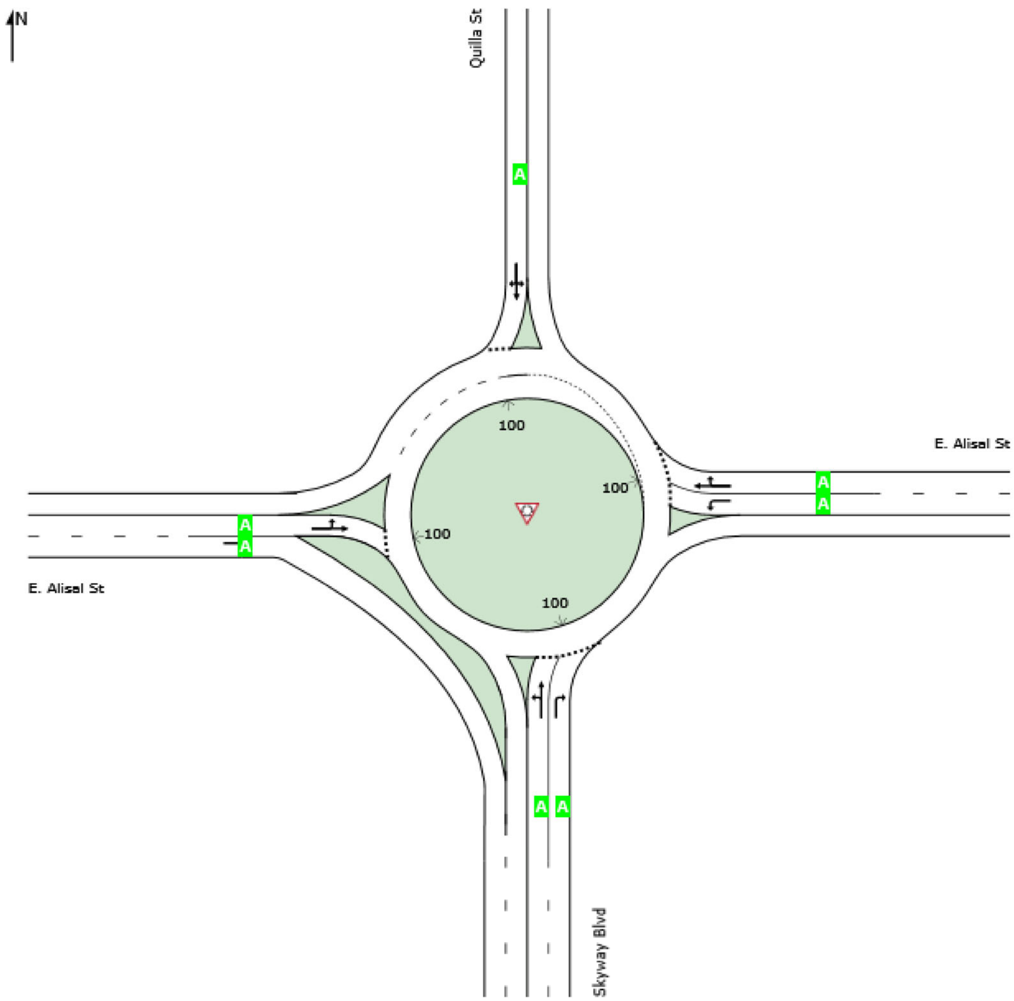
LANE LEVEL OF SERVICE

Lane Level of Service

Site: 5 [E. Alisal St @ Skyway Blvd_PM - CU + Proj]

New Site
Site Category: (None)
Roundabout

	Approaches				Intersection
	South	East	North	West	
LOS	A	A	A	A	A



Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Sign Control.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
HCM Delay Formula option is used. Control Delay does not include Geometric Delay since Exclude Geometric Delay option applies.

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	218	100	21	31	221	321
Future Volume (veh/h)	218	100	21	31	221	321
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1159	1159	1159	1604
Adj Flow Rate, veh/h	295	135	28	42	299	434
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	50	50	50	20
Cap, veh/h	362	166	289	460	460	539
Arrive On Green	0.35	0.35	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1044	478	448	1159	1159	1359
Grp Volume(v), veh/h	431	0	28	42	299	434
Grp Sat Flow(s),veh/h/ln	1525	0	448	1159	1159	1359
Q Serve(g_s), s	9.0	0.0	1.9	0.8	7.4	9.9
Cycle Q Clear(g_c), s	9.0	0.0	9.3	0.8	7.4	9.9
Prop In Lane	0.68	0.31	1.00			1.00
Lane Grp Cap(c), veh/h	529	0	289	460	460	539
V/C Ratio(X)	0.81	0.00	0.10	0.09	0.65	0.80
Avail Cap(c_a), veh/h	976	0	347	610	610	715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.4	0.0	12.4	6.6	8.6	9.4
Incr Delay (d2), s/veh	3.1	0.0	0.1	0.1	1.6	5.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.2	0.1	1.3	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.5	0.0	12.5	6.7	10.2	14.4
LnGrp LOS	B	A	B	A	B	B
Approach Vol, veh/h	431			70	733	
Approach Delay, s/veh	13.5			9.0	12.7	
Approach LOS	B			A	B	

Timer - Assigned Phs		2		4				8
Phs Duration (G+Y+Rc), s		16.7		18.4				18.4
Change Period (Y+Rc), s		4.5		4.5				4.5
Max Green Setting (Gmax), s		22.5		18.5				18.5
Max Q Clear Time (g_c+I1), s		11.0		11.9				11.3
Green Ext Time (p_c), s		1.2		2.0				0.2

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	292	23	108	291	158	360	84	464	96	10	31
Future Volume (veh/h)	76	292	23	108	291	158	360	84	464	96	10	31
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	1500	1589	1589	1485	1752	1781	1693	1870	1870	1752	1263	1263
Adj Flow Rate, veh/h	93	356	28	132	355	193	439	102	566	117	12	38
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	21	21	28	10	8	14	2	2	10	43	43
Cap, veh/h	122	577	45	159	560	390	577	703	627	151	362	323
Arrive On Green	0.09	0.14	0.14	0.11	0.17	0.17	0.18	0.40	0.40	0.09	0.30	0.30
Sat Flow, veh/h	1428	4105	318	1414	3328	1510	3127	1777	1585	1668	1200	1070
Grp Volume(v), veh/h	93	249	135	132	355	193	439	102	566	117	12	38
Grp Sat Flow(s),veh/h/ln	1428	1446	1531	1414	1664	1510	1564	1777	1585	1668	1200	1070
Q Serve(g_s), s	4.3	5.5	5.6	6.2	6.7	7.4	9.1	2.5	22.8	4.7	0.5	1.7
Cycle Q Clear(g_c), s	4.3	5.5	5.6	6.2	6.7	7.4	9.1	2.5	22.8	4.7	0.5	1.7
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	122	407	215	159	560	390	577	703	627	151	362	323
V/C Ratio(X)	0.76	0.61	0.63	0.83	0.63	0.49	0.76	0.15	0.90	0.78	0.03	0.12
Avail Cap(c_a), veh/h	406	923	489	527	1357	752	1450	910	812	503	420	375
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	30.4	27.5	27.5	29.5	26.3	21.4	26.3	13.2	19.3	30.2	16.7	17.2
Incr Delay (d2), s/veh	3.7	0.6	1.1	4.1	0.9	0.7	2.1	0.0	9.6	8.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	1.9	2.1	2.1	2.5	2.4	3.2	0.9	8.6	2.2	0.1	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.1	28.0	28.6	33.6	27.2	22.1	28.4	13.2	28.9	38.5	16.7	17.2
LnGrp LOS	C	C	C	C	C	C	C	B	C	D	B	B
Approach Vol, veh/h		477			680			1107			167	
Approach Delay, s/veh		29.4			27.0			27.3			32.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	31.1	11.4	14.9	17.0	24.7	9.5	16.7
Change Period (Y+Rc), s	4.5	* 4.2	3.7	5.3	4.5	* 4.2	3.7	5.3
Max Green Setting (Gmax), s	20.5	* 35	25.3	21.7	31.5	* 24	19.3	27.7
Max Q Clear Time (g_c+I1), s	6.7	24.8	8.2	7.6	11.1	3.7	6.3	9.4
Green Ext Time (p_c), s	0.2	2.1	0.1	1.5	1.5	0.1	0.1	2.0

Intersection Summary	
HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	499	414	144	162	137	120
Future Volume (veh/h)	499	414	144	162	137	120
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	542	450	157	176	149	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	980	1776	196	1334	201	179
Arrive On Green	0.53	0.53	0.11	0.72	0.11	0.11
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	542	450	157	176	149	130
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	14.5	5.2	6.5	2.2	6.1	6.0
Cycle Q Clear(g_c), s	14.5	5.2	6.5	2.2	6.1	6.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	980	1776	196	1334	201	179
V/C Ratio(X)	0.55	0.25	0.80	0.13	0.74	0.73
Avail Cap(c_a), veh/h	980	1776	306	1334	329	293
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.6	5.6	32.3	3.1	31.9	31.9
Incr Delay (d2), s/veh	2.2	0.3	8.1	0.2	5.3	5.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.7	3.0	0.5	2.8	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.8	5.9	40.4	3.3	37.3	37.5
LnGrp LOS	B	A	D	A	D	D
Approach Vol, veh/h	992			333	279	
Approach Delay, s/veh	10.2			20.8	37.4	
Approach LOS	B			C	D	

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	14.3	45.7	60.0	14.5
Change Period (Y+Rc), s	* 6	* 6	* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35	* 54	14.0
Max Q Clear Time (g_c+I1), s	8.5	16.5	4.2	8.1
Green Ext Time (p_c), s	0.1	4.9	0.9	0.4

Intersection Summary	
HCM 6th Ctrl Delay	17.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	127	15	3	8	25	344
Future Vol, veh/h	127	15	3	8	25	344
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	138	16	3	9	27	374
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	9.4	8.3	10.3
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	53%	0%	100%	74%	0%	0%
Vol Thru, %	47%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	26%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	6	5	85	57	25	344
LT Vol	3	0	85	42	0	0
Through Vol	3	5	0	0	25	0
RT Vol	0	0	0	15	0	344
Lane Flow Rate	6	6	92	62	27	374
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.01	0.009	0.151	0.097	0.038	0.447
Departure Headway (Hd)	5.581	5.314	5.926	5.611	5.003	4.3
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	641	673	605	638	718	841
Service Time	3.314	3.047	3.672	3.356	2.719	2.016
HCM Lane V/C Ratio	0.009	0.009	0.152	0.097	0.038	0.445
HCM Control Delay	8.4	8.1	9.7	9	7.9	10.5
HCM Lane LOS	A	A	A	A	A	B
HCM 95th-tile Q	0	0	0.5	0.3	0.1	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	195	16	142	204	32	140
Future Volume (veh/h)	195	16	142	204	32	140
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1159	1159	1159	1604
Adj Flow Rate, veh/h	264	22	192	276	43	189
Peak Hour Factor	0.74	0.74	0.74	0.74	0.74	0.74
Percent Heavy Veh, %	0	0	50	50	50	20
Cap, veh/h	380	32	537	468	468	549
Arrive On Green	0.26	0.26	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1443	120	712	1159	1159	1359
Grp Volume(v), veh/h	287	0	192	276	43	189
Grp Sat Flow(s),veh/h/ln	1569	0	712	1159	1159	1359
Q Serve(g_s), s	4.5	0.0	6.2	5.0	0.6	2.6
Cycle Q Clear(g_c), s	4.5	0.0	6.8	5.0	0.6	2.6
Prop In Lane	0.92	0.08	1.00			1.00
Lane Grp Cap(c), veh/h	414	0	537	468	468	549
V/C Ratio(X)	0.69	0.00	0.36	0.59	0.09	0.34
Avail Cap(c_a), veh/h	1044	0	723	771	771	904
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.0	0.0	7.1	6.3	5.0	5.6
Incr Delay (d2), s/veh	2.1	0.0	0.4	1.2	0.1	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.5	0.7	0.1	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	11.1	0.0	7.5	7.5	5.1	6.0
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	287			468	232	
Approach Delay, s/veh	11.1			7.5	5.8	
Approach LOS	B			A	A	

Timer - Assigned Phs	2	4	8
Phs Duration (G+Y+Rc), s	11.6	15.4	15.4
Change Period (Y+Rc), s	4.5	4.5	4.5
Max Green Setting (Gmax), s	18.0	18.0	18.0
Max Q Clear Time (g_c+I1), s	6.5	4.6	8.8
Green Ext Time (p_c), s	0.7	0.7	2.2

Intersection Summary	
HCM 6th Ctrl Delay	8.1
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	629	28	217	148	99	182	31	240	101	38	51
Future Volume (veh/h)	75	629	28	217	148	99	182	31	240	101	38	51
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	1500	1589	1589	1485	1752	1781	1693	1870	1870	1752	1263	1263
Adj Flow Rate, veh/h	91	767	34	265	180	121	222	38	293	123	46	62
Peak Hour Factor	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82	0.82
Percent Heavy Veh, %	27	21	21	28	10	8	14	2	2	10	43	43
Cap, veh/h	115	1039	46	301	1253	710	314	372	332	157	243	217
Arrive On Green	0.08	0.24	0.24	0.21	0.38	0.38	0.10	0.21	0.21	0.09	0.20	0.20
Sat Flow, veh/h	1428	4258	188	1414	3328	1510	3127	1777	1585	1668	1200	1070
Grp Volume(v), veh/h	91	520	281	265	180	121	222	38	293	123	46	62
Grp Sat Flow(s),veh/h/ln	1428	1446	1555	1414	1664	1510	1564	1777	1585	1668	1200	1070
Q Serve(g_s), s	4.6	12.2	12.3	13.4	2.6	3.4	5.1	1.3	13.2	5.3	2.3	3.6
Cycle Q Clear(g_c), s	4.6	12.2	12.3	13.4	2.6	3.4	5.1	1.3	13.2	5.3	2.3	3.6
Prop In Lane	1.00		0.12	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	115	706	379	301	1253	710	314	372	332	157	243	217
V/C Ratio(X)	0.79	0.74	0.74	0.88	0.14	0.17	0.71	0.10	0.88	0.79	0.19	0.29
Avail Cap(c_a), veh/h	302	1244	669	697	2367	1215	620	405	361	396	321	286
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	33.3	25.7	25.7	28.1	15.1	11.2	32.1	23.5	28.3	32.7	24.3	24.9
Incr Delay (d2), s/veh	4.6	0.6	1.1	3.4	0.0	0.1	2.9	0.0	19.5	8.4	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	1.7	4.1	4.5	4.4	0.9	1.0	1.9	0.5	6.3	2.5	0.7	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.9	26.2	26.8	31.5	15.2	11.3	35.0	23.6	47.7	41.0	24.5	25.1
LnGrp LOS	D	C	C	C	B	B	D	C	D	D	C	C
Approach Vol, veh/h		892			566			553			231	
Approach Delay, s/veh		27.6			22.0			41.0			33.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	19.6	19.4	23.3	11.9	19.1	9.6	33.0
Change Period (Y+Rc), s	4.5	* 4.2	3.7	5.3	4.5	* 4.2	3.7	5.3
Max Green Setting (Gmax), s	17.5	* 17	36.3	31.7	14.6	* 20	15.6	52.4
Max Q Clear Time (g_c+I1), s	7.3	15.2	15.4	14.3	7.1	5.6	6.6	5.4
Green Ext Time (p_c), s	0.2	0.2	0.4	3.7	0.4	0.3	0.1	1.1

Intersection Summary		
HCM 6th Ctrl Delay		30.1
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
3: Roy Diaz Street & Airport Boulevard

09/09/2019

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	429	423	241	205	285	181
Future Volume (veh/h)	429	423	241	205	285	181
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1841	1841	1841	1841	1841	1841
Adj Flow Rate, veh/h	466	460	262	223	310	197
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	4	4	4	4	4	4
Cap, veh/h	805	1682	285	1242	307	273
Arrive On Green	0.44	0.44	0.16	0.68	0.17	0.17
Sat Flow, veh/h	1841	2745	1753	1841	1753	1560
Grp Volume(v), veh/h	466	460	262	223	310	197
Grp Sat Flow(s),veh/h/ln	1841	1373	1753	1841	1753	1560
Q Serve(g_s), s	15.3	6.2	11.8	3.6	14.0	9.5
Cycle Q Clear(g_c), s	15.3	6.2	11.8	3.6	14.0	9.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	805	1682	285	1242	307	273
V/C Ratio(X)	0.58	0.27	0.92	0.18	1.01	0.72
Avail Cap(c_a), veh/h	805	1682	285	1242	307	273
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	7.2	33.0	4.8	33.0	31.2
Incr Delay (d2), s/veh	3.0	0.4	36.2	0.3	54.1	9.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	2.6	7.5	1.0	10.3	4.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.0	7.6	69.2	5.1	87.1	40.1
LnGrp LOS	B	A	E	A	F	D
Approach Vol, veh/h	926			485	507	
Approach Delay, s/veh	13.8			39.7	68.8	
Approach LOS	B			D	E	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	19.0	41.0				60.0	20.0
Change Period (Y+Rc), s	* 6	* 6				* 6	6.0
Max Green Setting (Gmax), s	* 13	* 35				* 54	14.0
Max Q Clear Time (g_c+I1), s	13.8	17.3				5.6	16.0
Green Ext Time (p_c), s	0.0	4.3				1.2	0.0

Intersection Summary		
HCM 6th Ctrl Delay		34.9
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	566	17	20	66	10	344
Future Vol, veh/h	566	17	20	66	10	344
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	615	18	22	72	11	374
Number of Lanes	2	0	0	2	1	1

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	2	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay	21	10.6	17.1
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1	SBLn2
Vol Left, %	48%	0%	100%	92%	0%	0%
Vol Thru, %	52%	100%	0%	0%	100%	0%
Vol Right, %	0%	0%	0%	8%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	42	44	377	206	10	344
LT Vol	20	0	377	189	0	0
Through Vol	22	44	0	0	10	0
RT Vol	0	0	0	17	0	344
Lane Flow Rate	46	48	410	224	11	374
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.092	0.093	0.736	0.395	0.02	0.607
Departure Headway (Hd)	7.228	6.984	6.46	6.36	6.554	5.842
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	494	512	562	566	545	617
Service Time	4.989	4.745	4.195	4.095	4.304	3.592
HCM Lane V/C Ratio	0.093	0.094	0.73	0.396	0.02	0.606
HCM Control Delay	10.7	10.5	25.2	13.2	9.4	17.3
HCM Lane LOS	B	B	D	B	A	C
HCM 95th-tile Q	0.3	0.3	6.2	1.9	0.1	4.1

H. HCS FREEWAY SEGMENT ANALYSIS OUTPUT SHEETS

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2489	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1444
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	20.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2721	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1578
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.1
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1876	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1088
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1643	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	953
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1795	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1041
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1962	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1138
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1352	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	784
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information			
Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	1185	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	688
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2497	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1448
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.60
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2736	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1587
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.66
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	23.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1905	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1105
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1648	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	956
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.40
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1818	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1054
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	15.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1966	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1140
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.48
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1362	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	790
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1194	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	692
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	9.9
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	A
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2558	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1484
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2799	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1624
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.68
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2050	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1189
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1717	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	996
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2069	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1200
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information

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Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2062	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1196
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1407	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	816
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	2019
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1332	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	772
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2566	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1488
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	68.7
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	21.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2814	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1632
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.68
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	24.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2079	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1206
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1722	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	999
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	14.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2092	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1214
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.4
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2066	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1198
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1417	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	822
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.8
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Background + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1341	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	778
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2912	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1689
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.70
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	67.0
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3184	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1847
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	64.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.5
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

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Project Information			
Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data			
Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity			
Demand Volume veh/h	2195	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1273
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.53
Passenger Car Equivalent (E_T)	2.000		

Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1923	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1116
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.0
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2100	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1218
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.5
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2295	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1331
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1582	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	918
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1386	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	804
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2920	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1694
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.71
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	66.9
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	25.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3199	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1856
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.77
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	64.8
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	28.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	D
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	3	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	3199	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1237
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.8
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2224	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1290
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.5
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	18.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Fairview to Airport	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1928	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1118
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	16.1
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2123	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1232
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.51
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	17.7
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 NB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	2299	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	1334
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.56
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.4
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	19.2
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	C
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	AM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1592	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	924
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	13.3
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

HCS7 Basic Freeway Report

Project Information

Analyst	Kimley-Horn	Date	8/14/2019
Agency	Caltrans	Analysis Year	Cumulative + Project
Jurisdiction	Monterey County	Time Period Analyzed	PM Peak Hour
Project Description	US 101 SB from Airport to Roy Diaz	Unit	United States Customary

Geometric Data

Number of Lanes, ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Base	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	75.4	Total Ramp Density (TRD), ramps/mi	2.00
Lane Width, ft	12	Free-Flow Speed (FFS), mi/h	69.6
Right-Side Lateral Clearance, ft	10		

Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Weather Type	Non-Severe Weather	Final Capacity Adjustment Factor (CAF)	1.000
Incident Type	No Incident	Demand Adjustment Factor (DAF)	1.000

Demand and Capacity

Demand Volume veh/h	1395	Heavy Vehicle Adjustment Factor (f_{HV})	0.917
Peak Hour Factor	0.94	Flow Rate (V_p), pc/h/ln	809
Total Trucks, %	9.00	Capacity (c), pc/h/ln	2396
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2396
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34
Passenger Car Equivalent (E_T)	2.000		

Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	69.6
Right-Side Lateral Clearance Adj. (f_{RLC})	0.0	Density (D), pc/mi/ln	11.6
Total Ramp Density Adjustment	5.8	Level of Service (LOS)	B
Adjusted Free-Flow Speed (FFS_{adj}), mi/h	69.6		

I. PEAK HOUR SIGNAL WARRANT ANALYSIS

Standard:

07 **The need for a traffic control signal shall be considered if an engineering study finds that both of the following conditions exist for each of any 8 hours of an average day:**

A. The vehicles per hour given in both of the 80 percent columns of Condition A in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection; and

B. The vehicles per hour given in both of the 80 percent columns of Condition B in Table 4C-1 exist on the major-street and the higher-volume minor-street approaches, respectively, to the intersection.

These major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Option:

08 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, the traffic volumes in the 56 percent columns in Table 4C-1 may be used in place of the 80 percent columns.

Section 4C.03 Warrant 2, Four-Hour Vehicular Volume

Support:

01 The Four-Hour Vehicular Volume signal warrant conditions are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

Standard:

02 **The need for a traffic control signal shall be considered if an engineering study finds that, for each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) all fall above the applicable curve in Figure 4C-1 for the existing combination of approach lanes. On the minor street, the higher volume shall not be required to be on the same approach during each of these 4 hours.**

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-2 may be used in place of Figure 4C-1.

Section 4C.04 Warrant 3, Peak Hour

Support:

01 The Peak Hour signal warrant is intended for use at a location where traffic conditions are such that for a minimum of 1 hour of an average day, the minor-street traffic suffers undue delay when entering or crossing the major street.

Standard:

02 **This signal warrant shall be applied only in unusual cases, such as office complexes, manufacturing plants, industrial complexes, or high-occupancy vehicle facilities that attract or discharge large numbers of vehicles over a short time.**

03 **The need for a traffic control signal shall be considered if an engineering study finds that the criteria in either of the following two categories are met:**

A. If all three of the following conditions exist for the same 1 hour (any four consecutive 15-minute periods) of an average day:

1. The total stopped time delay experienced by the traffic on one minor-street approach (one direction only) controlled by a STOP sign equals or exceeds: 4 vehicle-hours for a one-lane approach or 5 vehicle-hours for a two-lane approach; and

2. The volume on the same minor-street approach (one direction only) equals or exceeds 100 vehicles per hour for one moving lane of traffic or 150 vehicles per hour for two moving lanes; and

3. The total entering volume serviced during the hour equals or exceeds 650 vehicles per hour for intersections with three approaches or 800 vehicles per hour for intersections with four or more approaches.

B. The plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only) for 1 hour (any four consecutive 15-minute periods) of an average day falls above the applicable curve in Figure 4C-3 for the existing combination of approach lanes.

Option:

04 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 40 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-4 may be used in place of Figure 4C-3 to evaluate the criteria in the second category of the Standard.

05 If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal may be operated in the flashing mode during the hours that the volume criteria of this warrant are not met.

Guidance:

06 *If this warrant is the only warrant met and a traffic control signal is justified by an engineering study, the traffic control signal should be traffic-actuated.*

Section 4C.05 Warrant 4, Pedestrian Volume

Support:

01 The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

Standard:

02 **The need for a traffic control signal at an intersection or midblock crossing shall be considered if an engineering study finds that one of the following criteria is met:**

A. For each of any 4 hours of an average day, the plotted points representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) all fall above the curve in Figure 4C-5; or

B. For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.

Option:

03 If the posted or statutory speed limit or the 85th-percentile speed on the major street exceeds 35 mph, or if the intersection lies within the built-up area of an isolated community having a population of less than 10,000, Figure 4C-6 may be used in place of Figure 4C-5 to evaluate Criterion A in Paragraph 2, and Figure 4C-8 may be used in place of Figure 4C-7 to evaluate Criterion B in Paragraph 2.

Standard:

04 **The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal or STOP sign controlling the street that pedestrians desire to cross is less than 300 feet, unless the proposed traffic control signal will not restrict the progressive movement of traffic.**

05 **If this warrant is met and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads complying with the provisions set forth in Chapter 4E.**

Guidance:

06 *If this warrant is met and a traffic control signal is justified by an engineering study, then:*

A. If it is installed at an intersection or major driveway location, the traffic control signal should also control the minor-street or driveway traffic, should be traffic-actuated, and should include pedestrian detection.

B. If it is installed at a non-intersection crossing, the traffic control signal should be installed at least 100 feet from side streets or driveways that are controlled by STOP or YIELD signs, and should be pedestrian-actuated. If the traffic control signal is installed at a non-intersection crossing, at least one of the signal faces should be over the traveled way for each approach, parking and other sight obstructions should be prohibited for at least 100 feet in advance of and at least 20 feet beyond the crosswalk or site

TRAFFIC SIGNAL VOLUME WARRANT ANALYSIS (2010 MUTCD)

MAJOR STREET: **Skyway Boulevard** EB WB # OF APPROACH LANES: **2**

MINOR STREET: **Airport Boulevard** NB SB # OF APPROACH LANES: **2**

CITY, STATE: **Salinas CA**

COMMENTS: **Background Plus Project**

ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000 (Y OR N) **N**
85TH PERCENTILE SPEED GREATER THAN 40 MPH ON MAJOR STREET (Y OR N) **N**

	MAJOR ST TWO-WAY TRAFFIC	MINOR ST TRAFFIC HEAVY LEG	Ped Count CROSSING MAJOR ST	WARRANT 1 - Condition A, Part 1 MAIN LINE	SIDE STREET	BOTH MET	WARRANT 1 - Condition B, Part 1 MAIN LINE	SIDE STREET	BOTH MET	WARRANT 1 - Condition A, Part 2 MAIN LINE	SIDE STREET	BOTH MET	WARRANT 1 - Condition B, Part 2 MAIN LINE	SIDE STREET	BOTH MET	WARRANT 2 Four-Hour	WARRANT 3 Peak Hour
THRESHOLD VALUES →				**600**	**200**		**900**	**100**		**480**	**160**		**720**	**80**		**60**	**75**
06:30 AM TO 07:30 AM																	
07:30 AM TO 08:30 AM																	
08:30 AM TO 09:30 AM	1,387	326		Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
09:30 AM TO 10:30 AM																	
10:30 AM TO 11:30 AM																	
11:00 AM TO 12:00 PM																	
12:30 PM TO 01:30 PM																	
01:30 PM TO 02:30 PM																	
02:30 PM TO 03:30 PM																	
03:30 PM TO 04:30 PM																	
04:30 PM TO 05:30 PM	1,949	532		Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	Y	Y	**Y**	**Y**	**Y**
05:30 PM TO 06:30 PM																	
06:30 PM TO 07:30 PM																	
07:30 PM TO 08:30 PM																	
08:30 PM TO 09:30 PM																	
09:30 PM TO 10:30 PM																	
	3,336	858		2	2	**2**	2	2	**2**	2	2	**2**	2	2	**2**	**2**	**2**
				8 HOURS NEEDED			8 HOURS NEEDED			8 HOURS NEEDED for both Condition A & B						4 HRS NEEDED	1 HR NEEDED
				NOT SATISFIED			**NOT SATISFIED**			**NOT SATISFIED**						**NOT SATISFIED**	**SATISFIED**

09/18/19
Kimley-Horn and Associates

Kimley»Horn

J. SENSITIVITY ANALYSIS

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	311	0	2	2	3	354
Future Vol, veh/h	311	0	2	2	3	354
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	74	74	74	74	74	74
Heavy Vehicles, %	16	100	50	50	50	20
Mvmt Flow	420	0	3	3	4	478

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	13	4	482	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.56	7.2	4.6	-	-	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	4.2	2.65	-	-	-
Pot Cap-1 Maneuver	971	852	872	-	-	-
Stage 1	984	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	968	852	872	-	-	-
Mov Cap-2 Maneuver	968	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	979	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.5	4.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	872	-	968	-	-
HCM Lane V/C Ratio	0.003	-	0.434	-	-
HCM Control Delay (s)	9.1	-	11.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	2.2	-	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	378	0	1	2	3	833
Future Vol, veh/h	378	0	1	2	3	833
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	0	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	15	0	100	0	33	6
Mvmt Flow	411	0	1	2	3	905

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	7	3	908	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	4	-	-	-	-	-
Critical Hdwy	6.55	6.2	5.1	-	-	-
Critical Hdwy Stg 1	5.55	-	-	-	-	-
Critical Hdwy Stg 2	5.55	-	-	-	-	-
Follow-up Hdwy	3.635	3.3	3.1	-	-	-
Pot Cap-1 Maneuver	981	1087	462	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	979	1087	462	-	-	-
Mov Cap-2 Maneuver	979	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	986	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	4.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	462	-	979	-	-
HCM Lane V/C Ratio	0.002	-	0.42	-	-
HCM Control Delay (s)	12.8	-	11.3	-	-
HCM Lane LOS	B	-	B	-	-
HCM 95th %tile Q(veh)	0	-	2.1	-	-