RESOLUTION NO. 25-9465

A RESOLUTION OF THE CITY OF SANTA CLARA, CALIFORNIA, APPROVING AND ADOPTING AN ADDENDUM TO THE SANTA CLARA CITY PLACE ENVIRONMENTAL IMPACT REPORT, ANALYZING A NEW "SCHEME C" LAND USE SCENARIO FOR THE APPROVED MASTER COMMUNITY PLAN (MCP) FOR RELATED SANTA CLARA PROJECT LOCATED AT 5155 STARS AND STRIPES DRIVE, SANTA CLARA

Addendum to the Santa Clara City Place Environmental Impact Report (SCH #2014072078)
PLN24-00060 (General Plan Amendment, Rezoning, and Development Agreement Amendment)

WHEREAS, on January 31, 2024, Related Santa Clara, LLC ("Developer"), filed a development application to modify the approvals for a mixed-use development project for the approximately 240-acre City-owned site generally located north of Tasman Drive, east of Great America Parkway and San Tomas Aquino Creek, west of Guadalupe River, and south of State Route 237 (APNs: 104-03-043, 104-03-042, 104-03-041, 104-03-036, 104-01-102, 097-01-039, and 097-01-073), most of which was formerly occupied by a landfill, Santa Clara Golf & Tennis Club, Fire Station 10, and is now occupied by a Bicycle-Motocross (BMX) track, the Ameresco Methane Plant, the Eastside retention Basin and vacant lots ("Project Site");

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WHEREAS, on June 28, 2016, the City Council: certified the Santa Clara City Place Environmental Impact Report ("EIR") [SCH #2014072078] and adopted a set of CEQA Findings, a Statement of Overriding Considerations, and a Mitigation Monitoring and Reporting Program ("MMRP") in accordance with the requirements of the California Environmental Quality Act ("CEQA"); adopted a General Plan Amendment changing the Project Site's land use designation to Urban Center/Entertainment District and making corresponding text and figure changes throughout the General Plan; approved a rezoning of the Project Site to the Planned Development - Master Community (PD-MC) Zoning designation governed by the accompanying Master Community Plan ("MCP") for the Related Santa Clara project (the "Approved Project," previously known as "City Place"); and approved a Development Agreement ("DA") and a Disposition and Development Agreement ("DDA") to define the Developer's obligations to develop the Approved Project and define terms for ground leasing the Project Site to the Developer;

WHEREAS, the Developer proposes to modify the Approved Project to allow a range of light industrial uses on Parcels 1 and 2 (APN 097-01-073 and 097-01-039) of the Project Site while maintaining the already-approved office, retail, commercial, hotel, and residential uses on Parcels 4 and 5 of the Project Site, and maintaining the park and open space uses already approved on Parcel 3 and throughout the Project Site without modifying the 9.16 million gross square feet of development or overall development intensities already allowed on the Project Site (the "Proposed Project");

WHEREAS, the Zoning amendment proposes a text amendment to revise the permitted uses under the PD-MC Zoning designation to include a range of light industrial uses as permitted or conditionally permitted uses within that Zoning district and would add a new "Scheme C" land use scenario to the MCP and is more particularly described in the attached MCP Scheme C Supplement ("Zoning Amendment");

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WHEREAS, the Developer has simultaneously applied to amend the General Plan land use designation applicable to the Project Site to allow for a range of light industrial uses within the Urban Center/Entertainment District ("General Plan Amendment");

WHEREAS, the Developer has also requested to amend its existing Development Agreement ("DA") with the City to incorporate provisions related to the Proposed Project ("DA Amendment"), and City staff have negotiated and recommended the DA Amendment;

WHEREAS, the Developer has also requested to amend its existing DDA with the City, as previously amended, to incorporate provisions related to the Proposed Project ("DDA Amendment"), and City staff have negotiated and recommended the DDA Amendment (the DDA Amendment, together with the General Plan Amendment, Zoning Amendment, and DA Amendment are the "Project Approvals");

WHEREAS, on May 6, 2025, the City Council held a Study Session focused on the Proposed Project, public comments and the Project Approvals;

WHEREAS, CEQA Guidelines Section 15164(a) states that the lead agency shall prepare an Addendum to a previously certified EIR if some changes are necessary but none of the conditions described in the CEQA Guidelines Section 15162, which call for the preparation of a subsequent EIR, have occurred;

WHEREAS, in 2020 and 2021, the City adopted First, Second, and Third Addenda to the 2016 Santa Clara City Place EIR in connection with its approval of the Development Area Plan ("DAP") for Phase 1, the DAP for Phase 2, and the City Place Revised Soil Import and Earthwork Plans Project, respectively (together, the First, Second, and Third Addenda to the 2016 EIR constitute the "Santa Clara City Place EIR");

WHEREAS, in order to ensure that all potential environmental impacts of the Proposed Project were thoroughly analyzed, the City caused a fourth Addendum to the Santa Clara City Place EIR ("Addendum") to be prepared in accordance with CEQA Guidelines Section 15164;

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WHEREAS, following an analysis of the Proposed Project's changes, no new significant environmental impacts were identified, no substantial increases in the severity of previously identified impacts were discovered, and the Proposed Project remains subject to all previously adopted mitigation measures, as applicable and identified in the MMRP included as Appendix A to the Addendum;

WHEREAS, on June 11, 2025, the Planning Commission held a duly noticed public hearing, opened and closed for public comments, and at the conclusion of which, the Planning Commission unanimously recommended the City Council adopt the Addendum;

WHEREAS, prior to taking action on this Resolution, the City Council has exercised its independent judgement and reviewed and considered the Santa Clara City Place EIR and the Addendum and concluded that, for the reasons set forth in the Addendum, no further environmental review is required for the modifications to the Approved Project contemplated by the Proposed Project;

WHEREAS, on June 18, 2025, a notice of public hearing the July 8, 2025, City Council Hearing for this item was published in the *Santa Clara Weekly*;

WHEREAS, on June 18, 2025, the notice of public hearings for the July 8, 2025, City Council Hearing for this item was mailed to property owners within a 1,000 foot radius of the Project Site boundaries;

WHEREAS, pursuant to SCCC Section 18.146.020, on June 26, 2025, notice of the City Council Hearing on July 8, 2025, was posted at City Hall, the Central Park Library, the Mission Branch Library, the Northside Branch Library, and on the City's website; and

WHEREAS, on July 8, 2025, the City Council held a duly noticed public hearing to consider the Addendum to the Santa Clara City Place EIR, the MMRP included as Appendix A to the Addendum identifying applicable mitigation measures from the original MMRP, the Project Approvals, and all pertinent information in the record during which the City Council invited and considered any and all verbal and written testimony and evidence offered in favor of and in opposition to the Proposed Project.

NOW THEREFORE, BE IT RESOLVED BY THE CITY OF SANTA CLARA AS FOLLOWS:

1. The City Council hereby finds that the above Recitals are true and correct and by this reference makes them a part hereof.

2. The City Council hereby finds that the Proposed Project would not cause substantial changes to the Approved Project that would require major revisions to the Santa Clara City Place EIR due to the involvement of new or more severe significant environmental effects.

3. The City Council further finds that no substantial changes would occur with respect to the circumstances under which the Proposed Project is undertaken that would require major revisions to the Santa Clara City Place EIR due to the involvement of new or more severe significant environmental effects.

4. The City Council also finds that there is no new information of substantial importance, which was not known and could not have been known with reasonable diligence at the time the Santa Clara City Place EIR was certified, that shows (1) that the Proposed Project would have one or more significant effects not discussed in the EIR, (2) significant effects previously examined in the EIR would be substantially more severe than shown in the EIR, (3) mitigation measures or alternatives previously found not feasible would in fact be feasible and would substantially reduce one or more significant effects of the proposed project, but the Developer declined to adopt the mitigation or alternative, or (4) mitigation measures or alternatives which are considerably different from those analyzed in the EIR would substantially reduce one or more significant effects on the environment, but the Developer declined to adopt the mitigation measure or alternative.

5. The City Council further finds that this Addendum does not require any new mitigation measures, because the Proposed Project would not cause new significant impacts not previously identified and mitigated to the greatest extent feasible in the Santa Clara City Place EIR.

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6. The City Council finds that no new or substantially more severe significant environmental impacts have been identified compared to the Santa Clara City Place EIR, and therefore none of the conditions described in CEQA Guidelines Section 15162 requiring subsequent or supplemental environmental review are present. Accordingly, pursuant to CEQA Guidelines Section 15164, the changes and additions to the Santa Clara City Place EIR necessary to analyze the Proposed Project are appropriately detailed in the Addendum, which is attached to this Resolution and incorporated by this reference.

7. The City Council hereby designates the Director of Community Development as the Custodian of Records for the Project, and the Planning Division at City Hall, 1500 Warburton Avenue, Santa Clara, California, is the location of the documents and other material that constitute the record of proceedings upon which this decision is based.

8. Effective date. This resolution shall become effective immediately.

I HEREBY CERTIFY THE FOREGOING TO BE A TRUE COPY OF A RESOLUTION PASSED AND ADOPTED BY THE CITY OF SANTA CLARA, CALIFORNIA, AT A REGULAR MEETING THEREOF HELD ON THE 8TH DAY OF JULY, 2025, BY THE FOLLOWING VOTE:

AYES:	COUNCILORS:	Cox, Gonzalez, and Hardy, and Mayor Gillmor
NOES:	COUNCILORS:	Chahal, Jain, and Park
ABSENT:	COUNCILORS:	None
ABSTAINED:	COUNCILORS:	None

ATTEST: _____
NORA PIMENTEL, MMC
ASSISTANT CITY CLERK
CITY OF SANTA CLARA

Attachments incorporated by reference:
1. Addendum to the Santa Clara City Place EIR

RELATED SANTA CLARA REVISED LAND USE

CEQA Addendum 4

Prepared for
City of Santa Clara

June 2025

ESA

RELATED SANTA CLARA REVISED LAND USE

CEQA Addendum 4

Prepared for
City of Santa Clara

June 2025

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RELATED SANTA CLARA REVISED LAND USE

California Environmental Quality Act (CEQA) Addendum 4

1. General Project Information

1.1 Project Title

Related Santa Clara Scheme C

1.2 Lead Agency Name and Address

City of Santa Clara
Planning Division
1500 Warburton Avenue
Santa Clara, CA 95050

1.3 Planning/CEQA File Number

PLN2019-14249 (PLN2014-10554/CEQ2014-01180/SCH2014072078)

1.4 Contact Person and Phone Number

Nimisha Agrawal, Senior Planner
Planning Division
nagrawal@santaclaraca.gov
408-615-2450

1.5 Project Location

The Scheme C Project site is the same as the site for the City Place Santa Clara Project or Approved Project. The Project site is located on seven City-owned parcels totaling approximately 240 acres. The 2016 EIR designated the seven existing APNs as five development parcels as follows: APN 097-01-073 (became Parcel 1, previously APN 097-01-69), APN 097-01-039 (became Parcel 2), APN 104-01-102 (became Parcel 3), APN 104-03-036 (became Parcel 4), and APNs 104-03-41, 104-03-42 and 104-03-043 (became Parcel 5, previously APNs 104-03-38 and 104-03-39). For the purposes of this analysis, and to be consistent with the nomenclature used in the 2016 EIR, the Project site includes a total of five development parcels. The Project site is generally located north of Tasman Drive, east of Great America Parkway and San Tomas Aquino Creek, west of the Guadalupe River, and south of Great America Way and State Route (SR) 237.

1.6 Project Applicant's Name and Address

Related Santa Clara
5201 Great America Parkway, Suite 532
Santa Clara, CA 95054

1.7 Existing General Plan Designation

Urban Center/Entertainment District

1.8 Existing Zoning

Planned Development - Master Community (PD-MC)

1.9 Permits and Approvals

The Approved Project has received a number of approvals and permits, including but not limited to the following: General Plan Amendment, Rezoning, Master Community Plan (MCP) and Infrastructure Master Plan, Tentative Map, Development Agreement, Development Area Plan (DAP) 1 and 2, Tentative Map for DAP 1, Architectural Approval DAP 1 and 2.

1.9.1 Actions by the City of Santa Clara

The following discretionary approvals by the City would be required to implement Scheme C prior to development of Scheme C at the Project site and would be informed by the CEQA Addendum:

- City Council approval of an amendment to the Master Community Plan consistent with the uses described in this CEQA Addendum.
- City Council approval of an amendment to the Development Agreement to implement aspects of Scheme C.
- City Council approval of an amendment to the Disposition and Development Agreement to implement aspects of Scheme C.
- City Council approval of DAPs implementing Scheme C, consistent with the uses described in this CEQA Addendum.
- Community Development Director approval of Architectural Review.
- City approval of tentative subdivision maps.

1.9.2 Actions by Other Agencies

No actions by other agencies are anticipated beyond the approvals listed in the 2016 EIR.

2. Background

2.1 Planning Context

On June 28, 2016, pursuant to the California Environmental Quality Act (CEQA), the City of Santa Clara (City) certified an Environmental Impact Report for the City Place Santa Clara Project. The City also approved General Plan amendments, zoning amendments (including a Master Community Plan) and other entitlements for the City Place Santa Clara Project. For the purposes of this CEQA Addendum analysis, the City Place Santa Clara Project EIR (2016 EIR) for the City Place Santa Clara Project (City Place Project) comprises the *City Place Santa Clara Draft Environmental Impact Report,* October 2015 (DEIR); the *City Place Santa Clara Final Environmental Impact Report,* April 2016, and subsequent addenda to the EIR.

The 2016 EIR analyzed the City Place Santa Clara Project, which includes conversion of 240 acres of City-owned property into a multi-phase, mixed-use development.[1] In connection with City Council Resolution No. 16-8337 certifying the 2016 EIR, the City Council adopted CEQA Findings and a Statement of Overriding Considerations (Attachment 2 to Resolution No. 16-8337) (the "CEQA Findings"). As set forth in the CEQA Findings, the City adopted the Enhanced Open Space Variant (EOS Variant), incorporating the Increased Housing Alternative (IHA), which could be developed as EOS Scheme A or EOS Scheme B (as described in the CEQA Findings, the "Approved Project"). On March 24, 2020, the City adopted a First Addendum to the 2016 EIR in connection with its approval of the Development Area Plan for Phase 1 (DAP 1) for the Project. A Second Addendum to the 2016 EIR was prepared for the DAP for Phase 2 DAP 2. Architectural review of DAP 1 was approved in March 2020 and Architectural review of DAP 2 was approved in May 2021. A Third Addendum to the 2016 EIR was also prepared for the City Place Revised Soil Import and Earthwork Plans Project in 2021.

The Approved Project entails demolition of the existing buildings and on-site features and establishment of a new mixed-use City neighborhood with a defined center to serve as a focal point for a pedestrian-oriented "live, work, and play" environment. The 2016 EIR evaluated the proposed land uses for the Project site by breaking down the approximately 240 acres into five development parcels: Parcel 1 (36.8 acres), Parcel 2 (60.9 acres), Parcel 3 (34.9 acres), Parcel 4 (86.6 acres), and Parcel 5 (8 acres), which were to be further subdivided and developed in approximately seven phases pursuant to the approved MCP (described below) and subsequent Development Area Plans (DAP). The Project site also includes the Eastside Retention Basin (12.8 acres). The 2016 EIR analyzed four variants to vehicular access, four alternatives, and an additional EOS Variant. As noted above, the Increased Housing Alternative and EOS Variant were adopted as the Approved Project and are reflected in the approved MCP.

The Approved Project includes up to 9.16 million gross square feet (gsf) of office buildings, retail and entertainment facilities, residential units, hotel rooms, and surface and structured parking facilities. The Approved Project includes large, shared open spaces throughout the Project site; new pedestrian and vehicular entrances and roadway networks; new roads; new, upgraded, and expanded infrastructure; and new utilities, with improvements to offsite connections. In addition, the Approved Project includes construction of a fire station to replace the existing Santa Clara Fire Station 10 (Fire Station 10), which

[1] Although the City Place Santa Clara Project is now referred to as "Related Santa Clara," this addendum uses "City Place Santa Clara" as that is consistent with the naming in the CEQA documents and the Master Community Plan.

will be demolished to accommodate the Approved Project. The Approved Project includes a height limit allowing construction of buildings up to a height of 17 stories above the internal street level.[2]

The majority of the Approved Project is located over the former Santa Clara All-Purpose Landfill (Landfill), and therefore includes the following additional activities: constructing foundation systems that minimize disturbance to, and preserve the integrity of, landfill components; relocating, upgrading, and/or replacing, as necessary, the existing groundwater monitoring network, leachate collection system, and landfill gas collection and removal systems; and installing new landfill gas mitigation systems beneath, and in, the newly constructed structures. The City intends to retain ownership of the Project site and operational responsibility for the Landfill.

The 2016 EIR analyzed two conceptual land use schemes (Scheme A and Scheme B) for the Approved Project site to capture the range of possible land uses that could be developed. Both schemes include a building area of up to 9.16 million gsf. Under Scheme A, the uses for Parcels 1, 2, and 3 are primarily office uses, and Parcels 4 and 5 are devoted to mixed-use development consisting of commercial uses, including retail, food and beverage, and entertainment uses along with offices, a hotel, and multi-family residential uses (up to 1,680 units). Scheme B includes the same development scheme and building area at Parcels 1 and 3 as Scheme A and includes retail along with office uses at Parcel 2. Scheme B does not include residential uses at Parcel 4; instead, office development equal in area to the residential development in Scheme A is included, along with the same amount of space for the hotel, retail, entertainment venues, and open space areas. Development at Parcel 5 includes the same amount of residential, hotel, retail, and office uses under both schemes. Ultimately, neither Scheme A nor Scheme B were adopted precisely as presented in the DEIR.

The 2016 EIR analyzed an Increased Housing Alternative that replaces the 320,000 gsf of office space planned for Parcel 4 under Scheme A with 320,000 gsf of residential space, resulting in 320 additional residential units, for a total of approximately 1,680 residential units at the Project site. The Increased Housing Alternative was framed to include the same amount of retail, hotel, and entertainment uses as Scheme A.

The 2016 EIR also analyzed the EOS Variant. This variant was applied to both Scheme A and Scheme B and was analyzed in Exhibit A to the 2016 EIR. Under the EOS Variant, Parcel 3 is retained by the City and reserved for park use. The overall development square footage is not reduced under this variant. Rather, the 720,000 gsf of office use and associated parking in Parcel 3 analyzed in the DEIR is reallocated to other parcels.

Scheme A and Scheme B result in the same off-site vehicular site access configuration, interior roads and circulation (including through the existing Retention Basin area, Tasman East Specific Plan Area, and Convention Center parking area), open space areas, utility infrastructure improvements, and potential fire station locations.

[2] The maximum allowable height of the Approved Project at 17 stories, or 190 feet, is measured against the finished grade of the on-site streets. This is within Federal Aviation Administration height limits; the Approved Project proposed buildings would not exceed 219 feet above mean sea level (msl).

On June 28, 2016, the City certified the 2016 EIR, approved General Plan Amendments, and approved the Planned Development - Master Community (PD-MC) Zoning and accompanying MCP to allow for the phased development of the Approved Project. As noted above, the City adopted the Increased Housing Alternative and EOS Variant as the Approved Project. The Approved Project is reflected in the MCP to which future development on the site is required to conform. Specifically, the MCP sets forth the development standards, design guidelines, phasing constructs, project implementation procedures, development transfer provisions among parcels, permitted and conditional uses allowed within the proposed land use areas, and City approval standards for DAP applications. It anticipates up to seven potential phases of development, each of which would be governed by a DAP.

2.2 CEQA Context

The City Place Santa Clara Project EIR was certified June 28, 2016. This 2016 EIR is hereby incorporated by reference and is available to the public upon request during regular working hours at the City of Santa Clara Planning Division at 1500 Warburton Avenue, Santa Clara, California, 95050, and for all-hours access on the City of Santa Clara Planning Division website at http://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/135/3650.

As described above, the 2016 EIR analyzed project alternatives and variants along with two conceptual land use schemes for the Project site to capture the range of possible land uses that could be developed, and the City Council adopted the Approved Project pursuant to the CEQA Findings. Individual DAPs must be consistent with the MCP, which permits some flexibility in location, amount, and type of future development in terms of the precise mix of newly developed land uses and their location within the Project site.

The 2016 EIR determined that the Approved Project would result in **no impacts** on the following resource considerations: aesthetics (adversely affect scenic vistas), biological resources (plant species, habitat conservation plan), cultural resources (changes to historic resources), geology and soils (alternative waste water system), hazards and hazardous materials (private airstrip, wildland fires), hydrology and water quality (seiche, tsunami, or mudflow), land use (physical division of an established community), noise (private airstrip), population and housing (housing displacement), utilities and service systems (solid waste regulation), agricultural or forestry resources, and mineral resources.

Less-than-significant impacts were identified for the following resource considerations in the 2016 EIR: air quality (carbon monoxide CO concentrations, asbestos), biological resources (consistency with Ordinances Protecting Biological Resources including the Heritage Tree Ordinance), geology and soils (ground shaking or a seismic event), hazards and hazardous materials (routine hazardous materials use, proximity to schools, aviation hazards, emergency access routes), hydrology and water quality (groundwater supplies, flooding due to levee or dam failure), population and housing (employment displacement), public services and recreation, and utilities and service systems (water supplies, landfill capacity).

The 2016 EIR determined that the Approved Project would result in impacts on the following resource considerations that would be **reduced to a less-than-significant level with the implementation of mitigation measures**: aesthetics (degradation of existing visual character, new light or glare), air quality (emissions of criteria air pollutants and Toxic Air Contaminants during construction, odors), biological resources (special status fish or wildlife species, wetlands), cultural resources (archaeological, human

remains, paleontological resources), geology and soils (soil erosion, unstable soils), hazards and hazardous materials (accidental release during construction; the presence of hazardous materials in areas not underlain by the Landfill; landfill-related hazards including landfill gas, contaminated soils or groundwater, and subsurface fires), hydrology and water quality (water quality standards, drainage, and stormwater runoff), noise (construction noise, vibration), and utilities and service systems (construction of water delivery and stormwater generation and drainage systems, energy).

Significant unavoidable impacts were identified for the following environmental resource considerations in the 2016 EIR: air quality (emissions of criteria air pollutants during operation, conflicts with implementation of the applicable air quality plan), biological resources (interference with movement of native migratory wildlife species), greenhouse gas emissions (generation of greenhouse gas emissions, conflict with an applicable plan); land use (land use policy/new [unplanned] housing demand); noise (operational noise in excess of applicable standards); utilities and service systems (cumulative landfill capacity, cumulative energy). Due to the potential for significant unavoidable impacts, a Statement of Overriding Considerations was adopted as part of approval of the project in 2016.

2.2.1 2016 EIR – Secondary Environmental Effects

The 2016 EIR analysis found secondary significant impacts could result from construction of new offsite transportation improvements and a new soundwall that were required pursuant to identified mitigation measures. The analysis also identified mitigation measures, labeled with "IM" for improvement measure and "SW" for soundwall in Appendix A, to reduce, eliminate, or avoid these significant secondary impacts that could result from implementation of the required off-site transportation improvements and the soundwall. Scheme C does not include and would not require revisions to the off-site transportation improvements or the soundwall mitigation measures imposed pursuant to the 2016 EIR. Furthermore, as demonstrated in Section 6 below, Scheme C does not trigger new mitigation measures for which secondary impacts would occur. Therefore, all mitigation measures are included in Appendix A, *2025 Mitigation Monitoring and Reporting Program*, including mitigation measures addressing secondary impacts, which are the same mitigation measures as was required for the Approved Project pursuant to the 2016 EIR and Scheme C does not require or trigger any new analysis of secondary environmental impacts beyond those identified in the 2016 EIR.

2.2.2 Cumulative Scenario

The 2016 EIR included a cumulative effects analysis for the Approved Project based on specific local projects in the City and adjacent cities, full implementation of City and County general plans, and where applicable, full implementation of the general plans of the nine Bay Area counties and associated cities. Since the 2016 EIR, the cumulative scenario has evolved. For example, the 2016 EIR cumulative scenario assumed approximately 4,100 units would be developed near Tasman Drive and Calle del Sol under the Tasman East Specific Plan (see 2016 EIR Figure 3.0-1, Cumulative Projects within a Three-Mile Radius). On November 13, 2018, the Santa Clara City Council adopted the Tasman East Specific Plan which targeted the development of 4,500 units including units along Calle del Mundo. Since 2018, the City has proposed an amendment to the Tasman East Specific Plan that would allow an additional 1,500 units, for a total of 6,000 units within the existing Specific Plan boundaries.[3] However, even though the cumulative

[3] City of Santa Clara. *Tasman East Specific Plan*, updated February 28, 2023. Available: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/tasman-east. Accessed May 15, 2024.

scenario has evolved, it is substantially consistent with what was analyzed in 2016 for the purposes of CEQA. The analysis set forth in this Addendum has taken into account changes in the cumulative scenario relevant to each specific topic area, as discussed below.

The 2016 EIR evaluated cumulative impacts where the Approved Project would result in a project-related impact, whether it be less than significant, significant, or significant and unavoidable. If the Approved Project were to result in no impact with respect to a particular threshold, the 2016 EIR determined it could not cause or contribute to a cumulative impact and thus would have no cumulative impact. As described in the checklist below, similar to the Approved Project, Scheme C would have no impact (either direct or indirect) related to land use and planning (physical division of an established community, conflict with a habitat conservation plan or natural community conservation plan), aesthetics (scenic resources along a State Scenic Highway or scenic vista), cultural resources (historic resources), biological resources (special-status plant species, conflict with a Habitat Conservation Plan or Natural Community Conservation Plan), geology and soils (soils capable of supporting septic tanks and alternative wastewater systems), hydrology and water quality (flooding by seiche, tsunami, or mudflows), hazards and hazardous materials (aviation hazards for private airstrip operations, wildland fire hazards), population and housing (displacement of existing housing), utilities and service systems (exceedance of wastewater treatment requirements, complying with applicable federal, State, and local statutes and regulations related to solid waste). Similar to the Approved Project, Scheme C would also result in no impact with respect to these thresholds, and therefore could not cause or contribute to any cumulative effect on these considerations.

The 2016 EIR determined the incremental impacts of the Approved Project, in combination with the incremental impacts of other projects, would result in a significant and unavoidable cumulative impact related to land use and planning (policies aimed at improving the City's job/housing balance), air quality (criteria air pollutants) greenhouse gas emissions, noise (expose people to or generate noise levels in excess of established standards), population and housing (induce substantial population growth and housing demand), utilities and service systems (landfill capacity, energy demands). Additionally, as described in the specific resource sections below, the 2016 EIR identified less-than-significant and significant and mitigated cumulative impacts. As described in the checklist below, Scheme C would not result in an increase in the severity of previously identified resource impacts, including those that would result in a less than significant, significant and mitigated, or significant and unavoidable impact. Therefore, even though the cumulative scenario has evolved, it is substantially consistent with what was analyzed in 2016 for the purposes of CEQA, and Scheme C's incremental contribution would not result in new or more severe significant cumulative impacts compared to those disclosed in the 2016 EIR.

3. Purpose and Determination

3.1 Purpose

CEQA Guidelines Section 15164 (Addendum to an EIR or Negative Declaration) provides that an Addendum to an EIR shall be prepared if some changes or additions are necessary but none of the conditions of Section 15162 calling for preparation of a subsequent EIR have occurred (see Section 6.1 below for a description of those conditions). The Guidelines provide that a brief explanation of the decision not to prepare a subsequent or supplemental EIR pursuant to Section 15162 should be included in an addendum, the lead agency's findings, or elsewhere in the record, and require that decision to be supported by substantial evidence. The purpose of this Addendum is to: describe Scheme C in comparison to the Approved Project analyzed in the 2016 EIR; provide the required brief explanation of the decision that Scheme C does not give rise to the conditions calling for preparation of a subsequent environmental impact report; and summarize the substantial evidence supporting that conclusion.
A subsequent or supplemental environmental impact report is not required for Scheme C because none of the conditions described in CEQA Guidelines Section 15162 (Subsequent EIRs and Negative Declarations) calling for the preparation of a subsequent EIR or in CEQA Guidelines Section 15163 (Supplement to an EIR) calling for the preparation of a supplemental EIR have occurred.

3.2 Determination

The information presented in this Fourth Addendum to the 2016 EIR explains the substantial evidence supporting a finding that Scheme C does not call for preparation of a subsequent or supplemental environmental impact report and therefore the only additional CEQA documentation necessary is an addendum under CEQA Guidelines Section 15164.

4. Related Santa Clara Revised Project Scheme C

4.1 Project Location

The Scheme C Project site is the same 240-acre site as the Approved Project, consisting of the same five development parcels and the Eastside Retention Basin identified in the 2016 EIR. The Project site is generally located north of Tasman Drive, east of Great America Parkway and San Tomas Aquino Creek, west of the Guadalupe River, and south of Great America Way and State Route (SR) 237 (see **Figures 1 and 2**). The General Plan land use designation is Urban Center/Entertainment District and the Zoning district is Planned Development - Master Community (PD-MC). As noted above, development on the Project site is governed by the approved MCP dated April 2017. The MCP established a maximum building height limit across the Project site of 219 feet above mean sea level (msl) which it determined to be consistent with Airport Land Use Commission regulations.

4.1.1 2024 Existing Site Conditions and Surrounding Context

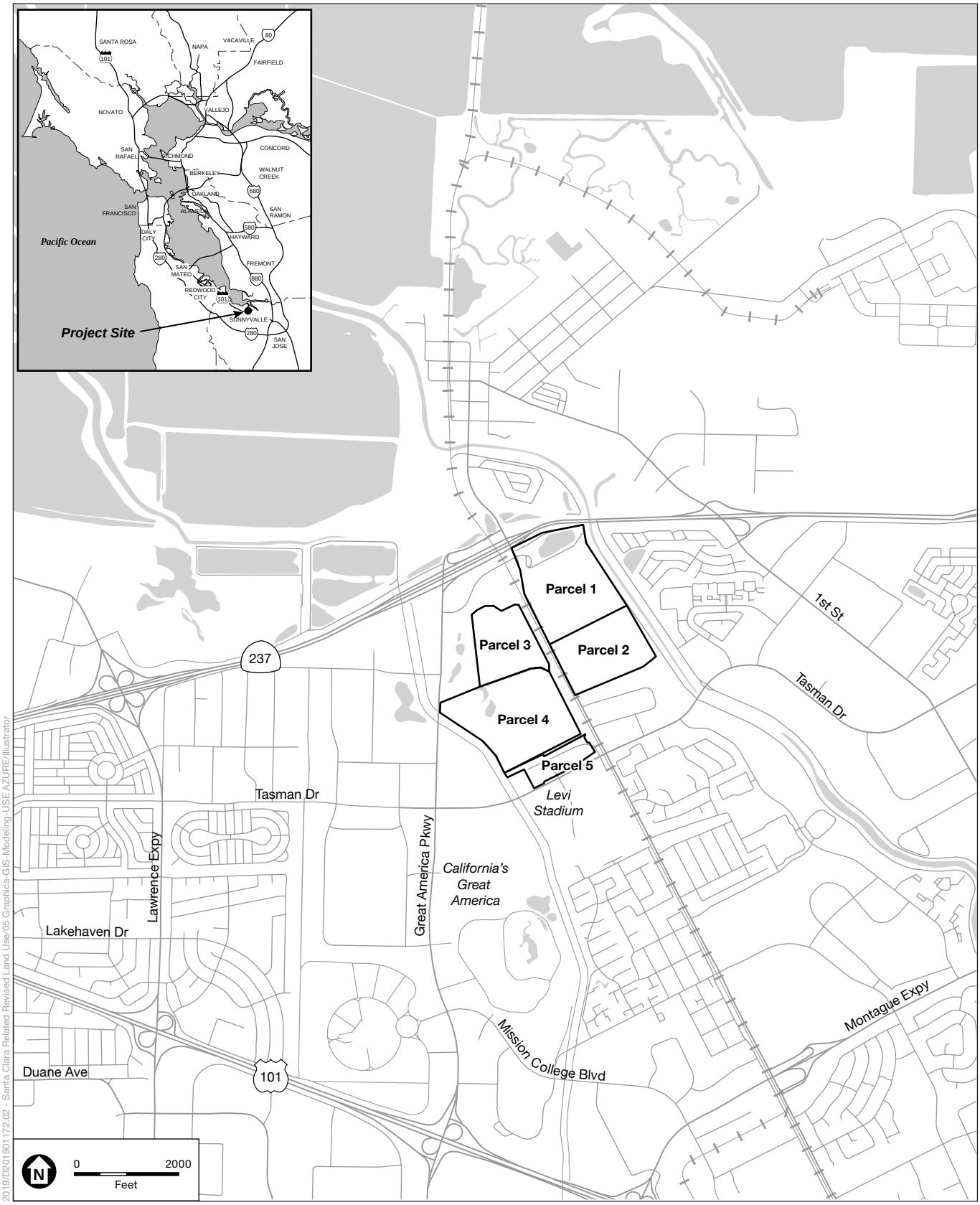
According to the 2016 EIR, most of the site was historically utilized as the Santa Clara All-Purpose Landfill, which ceased accepting waste in 1993 and received final closure certification in September 1994. As of 2024, the following existing uses are in and surrounding the Project site:

Santa Clara Golf & Tennis Club

A portion of the Landfill was closed by the late 1970s and early 1980s and was subsequently converted to a municipal golf course in 1986 by the City's Sports & Open Space Authority. The City-owned golf course was operated by the City's Sports & Open Space Authority under a management agreement with the American Golf Corporation and ceased operation in 2019. The former golf course was located on 155 acres of the Project site (the majority of the area west of Lafayette Street and the southern portion to the east of Lafayette Street). In addition to the golf course itself, the Santa Clara Golf & Tennis Club facilities included a clubhouse with a restaurant, a banquet facility, seven lighted tennis courts, locker rooms, extensive practice facilities, and a maintenance facility. Also included at the golf course was a lighted and covered driving range, a putting green, a chipping green, a practice bunker, and surface parking lots. The former Santa Clara Golf & Tennis Club was located on Parcels 2, 3, and 4.

As of 2024, the former golf course is no longer being maintained and primarily consists of unmaintained, dry vegetation, scattered trees, and a network of former golf cart pathways. The Santa Clara Golf & Tennis Club facilities and seven tennis courts are still present immediately north of Stars and Stripes Drive.

The portion of Parcel 5 to the south of Stars and Stripes Drive is currently undeveloped, paved, and is being utilized as surface parking. A bridge for pedestrians and golf carts spans Lafayette Street, connecting the eastern and western areas of the former golf course.



SOURCE: ESA, 2020

Related Santa Clara Scheme C

Figure 1
Project Location

ESA

2019/D2019011172.02 - Santa Clara Related Revised Land Use/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: Related Santa Clara; Google Earth, 2024

Related Santa Clara Scheme C

Figure 2
City Place Parcels

ESA

Santa Clara Fire Station 10

Santa Clara Fire Station 10, previously located at 5111 Stars and Stripes Drive, opened in 1986 and closed in March 2020.[4] The 7,364 gsf fire station building has been demolished .

Santa Clara P.A.L. Track

A BMX track, currently operated by the Santa Clara Police Activities League (PAL) BMX, is also located on the former Landfill in the northeast portion (Parcel 1) of the Project site at 5401 Lafayette Street. Races occur on Tuesday and Friday evenings and Sunday afternoons during the racing season (which runs continuously from January 1st through December 15th).[5] Riders are permitted to practice during signup times and after races finish. Two-wheel bikes are used for BMX racing, and bikes are available to rent. The facility includes a dirt track and racecourse, gates, a paved parking area, a snack bar, and lighting for nighttime use.

Ameresco Methane Plant

On Parcel 1, adjacent to the BMX track on Lafayette Street, is a methane power plant, which was commissioned in 2009 and is currently owned and operated by Ameresco. The current landfill gas collection system includes a series of vertical wells, horizontal conveyance piping, and manifolds connecting to processing or generation equipment at the Ameresco facility.

Surface Parking Lots

Parcel 5 is located between Stars and Stripes Drive to the north and Tasman Drive to the south and is split by the 90-foot-wide Centennial Boulevard. Parcel 5 is currently undeveloped and is used as temporary parking and staging areas for Levi's Stadium, across Tasman Drive to the south. The parking lots are accessed from Stars and Stripes Drive, which also provides access to the existing City parking garage to the west. The existing surface cover at the parking lot consists of pavement and unmaintained vegetation.

Retention Basin

The northern portion of the Project site, south of SR 237, also includes the existing 12.8-acre Eastside Storm Retention Basin (Retention Basin) located at 5611 Lafayette Street and built in 1973. The basin includes a large retention pond with a surface area of approximately 5.3 acres. According to the *Fiscal Year 2022/2023 and 2023/2024 Adopted Biennial Capital Improvement Program Budget,* the Storm Water Retention Basin Remediation Project was proposed in 2010 to remove silt, debris, and other deposits from the Westside and Eastside Retention Basins and the Tasman Swale. The two basins and the Tasman Swale have collected significant sediment since their construction and need to be dredged to restore their original line, grade and capacity to provide flood protection to the community. In 2018, the Westside Retention Basin was successfully desilted. As of 2024, the desilting work for the Eastside Retention Basin and the Tasman Swale have yet to be completed.[6] According to the Santa Clara County Multijurisdictional Hazard Mitigation Plan, funding for the design of the project was transferred to the

[4] City of Santa Clara, 2020. *Fire Station 10 to Close by March 1, 2020.* Available: https://www.santaclaraca.gov/our-city/departments-a-f/fire-department/fire-station-10-to-close-by-march-1-2020. Accessed April 8, 2024.

[5] Santa Clara Police Activities League, 2023. *BMX*. Available: https://santaclarapal.org/bmx/. Accessed April 8, 2024.

[6] City of Santa Clara. *FY 2022/23 and FY 2023/24 Adopted Biennial Capital Improvement Program Budget.* Available: https://www.santaclaraca.gov/our-city/departments-a-f/finance. Accessed April 8, 2024.

Laurelwood Storm drain pump station rehabilitation project, which was considered a higher priority. The Eastside Retention Basins and the Tasman Swale is unfunded.[7]

Although the 12.8-acre Retention Basin is a part of Parcel 1, no development has been proposed for this portion of the Project site other than a roadway connection to Great America Parkway that is approved to run adjacent to the retention pond.

Surrounding Context

Regional access to the Project site includes SR 237 to the north and US 101 approximately 1.5 miles to the south. The Santa Clara Valley Transportation Authority (VTA) operates several light rail stops along Tasman Drive to the south of the Project site, including the Champion Station, Lick Mill Station, and Great America Station. Amtrak, Capital Corridor, and Altamont Corridor Express (ACE) operate in the Union Pacific Railroad (UPRR) right-of-way and provide service to the project area at the Great America Station located at Lafayette Street and Tasman Drive. Bicycle and pedestrian access are also provided from the San Tomas Aquino Creek Trail via a bridge over the creek to the west of the Project site. This bridge is currently closed, and access is provided via Tasman Drive. In addition, the Guadalupe River Trail is located to the east of the Project site, although no linkages directly connect the Project site with this trail.

As of 2024, existing uses adjacent to the Project site include Levi's Stadium and Santa Clara Youth Soccer Park located across Tasman Drive, to the south of Parcel 5. The Tasman East Specific Plan Area is located to the south of Parcel 2. The Tasman East Specific Plan was a 46-acre industrial neighborhood bounded by Tasman Drive to the south, the Guadalupe River to the east, the Project site to the north, and Lafayette Street to the west. On November 13, 2018, the Santa Clara City Council adopted the Tasman East Specific Plan which created a framework for the development of a high-density transit-oriented neighborhood along with supportive retail services. The Specific Plan would allow construction of up to 4,500 dwelling units and up to 106,000 square feet of retail space including a 25,000 square foot grocery store.[8] The Specific Plan also incorporates connections to the existing Guadalupe River trail, potential locations for parkland, and strategies for better access to transit. On November 17, 2020, the City adopted Specific Plan Amendment #1 which allows for the replacement of a street extension of Calle Del Sol with a pedestrian and bicycle paseo; it also allows for additional methods of site-wide transportation demand management measures. An Amendment to the City's Transit Neighborhood Zoning District was also approved, which would allow for nonresidential uses to be permitted within the first three floors of new mixed-use buildings. The City has proposed an amendment to the Tasman East Specific Plan that would allow an additional 1,500 units within the existing Specific Plan boundaries.[9] As of 2024, the Tasman East Specific Plan Area consists of newly constructed residential uses, some of which are in the final stage of construction and are currently unoccupied, located along Calle del Mundo.

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7 IEM, 2023. *Santa Clara County Multijurisdictional Hazard Mitigation Plan 2023 Update*, June 20, 2023.Available: https://emergencymanagement.sccgov.org/sites/g/files/exjcpb261/files/2023-07/City%20of%20Santa%20Clara_Annex%20Draft_6.20.2023.pdf. Accessed April 8, 2023.

8 City of Santa Clara. *Tasman East Specific Plan Draft Environmental Impact Report*, July 2018. Available: https://www.santaclaraca.gov/home/showpublisheddocument/58796/636683060964930000. Accessed May 15, 2024.

9 City of Santa Clara. *Tasman East Specific Plan*, updated February 28, 2023. Available: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/tasman-east. Accessed May 15, 2024.

Additional residential uses are located to the south of the Project site, across Tasman Drive. The Santa Clara Convention Center (Convention Center) is located across the San Tomas Aquino Creek, to the southwest of Parcel 4. The San José Mineta International Airport is located approximately 2.8 miles southeast of the Project site. Office buildings and their surrounding surface parking lots are located to the north and northwest of Parcel 3. Office buildings and single-family residential homes are located across SR 237, to the north of Parcel 1. Residential uses are located across the Guadalupe River, to the east of the Project site. The surrounding uses located to the north of SR 237 and the east of the Guadalupe River are within the San José city limits. The San Francisco Bay is located approximately 0.5 mile north of the Project site. California's Great America Amusement Park is located approximately 0.4 mile south of the Project site. **Figure 3** depicts the uses on and adjacent to the Project site.

4.2 Project Characteristics

The Project Applicant proposes changes to the Approved Project that was analyzed in the 2016 EIR and described in the MCP. The proposed changes, defined as "Scheme C," are described in the proposed "MCP Scheme C Supplement." Scheme C would retain the total approved gross square footage of the Approved Project. As with the Approved Project, Scheme C would involve the demolition of the existing buildings and on-site features at the Project site and the construction of a new multi-phased, mixed-use development. Scheme C would still include up to 9.16 million gsf of development including office buildings, retail and entertainment facilities, residential units, hotel rooms, new open spaces, new roads, and new upgraded and expanded infrastructure.

However, Scheme C would introduce a new land use classification with approximately 1.6 million square feet of light industrial use in the northeastern area of the Project site (Parcels 1 and 2 or northeast parcels). The proposed light industrial land use would reduce density on the northeast parcels and increase density of the approved uses allowed within the City Center area of the site (on the blocks located in Parcel 4).

Scheme C would revise the site circulation and access configuration for Parcels 1 and 2 by removing the previously planned connection of Parcels 1 and 2 to the Lick Mill Boulevard Extension in the Tasman East Specific Plan Area adjacent to the Project site.

Under the current MCP, the building height limit across the Project site is 219 feet above mean sea level (msl), which it finds to be consistent with ALUC regulations. The proposed MCP Scheme C Supplement would revise the formulation of the height limits to permit towers on Parcel 4 of up to approximately 10-12 stories, with a maximum building height consistent with ALUC regulations and Federal Aviation hazard limits pursuant to FAA Federal Aviation Regulations, FAR Part 77 criteria. Although this revision would remove the 219 feet above msl height limit on Parcel 4, the revised height limits would remain consistent with applicable General Plan Policy 5.10.5-P30 and General Plan Policy 5.10.5-P33 that require compatibility with the Airport Land Use Compatibility Plan and Federal Aviation Administration Federal Aviation Regulations, FAR Par 77 criteria hazard height limits at San José Mineta International Airport, respectively.

The Scheme C site plan is shown in **Figure 4**. **Table 1** provides a development comparison by scheme.

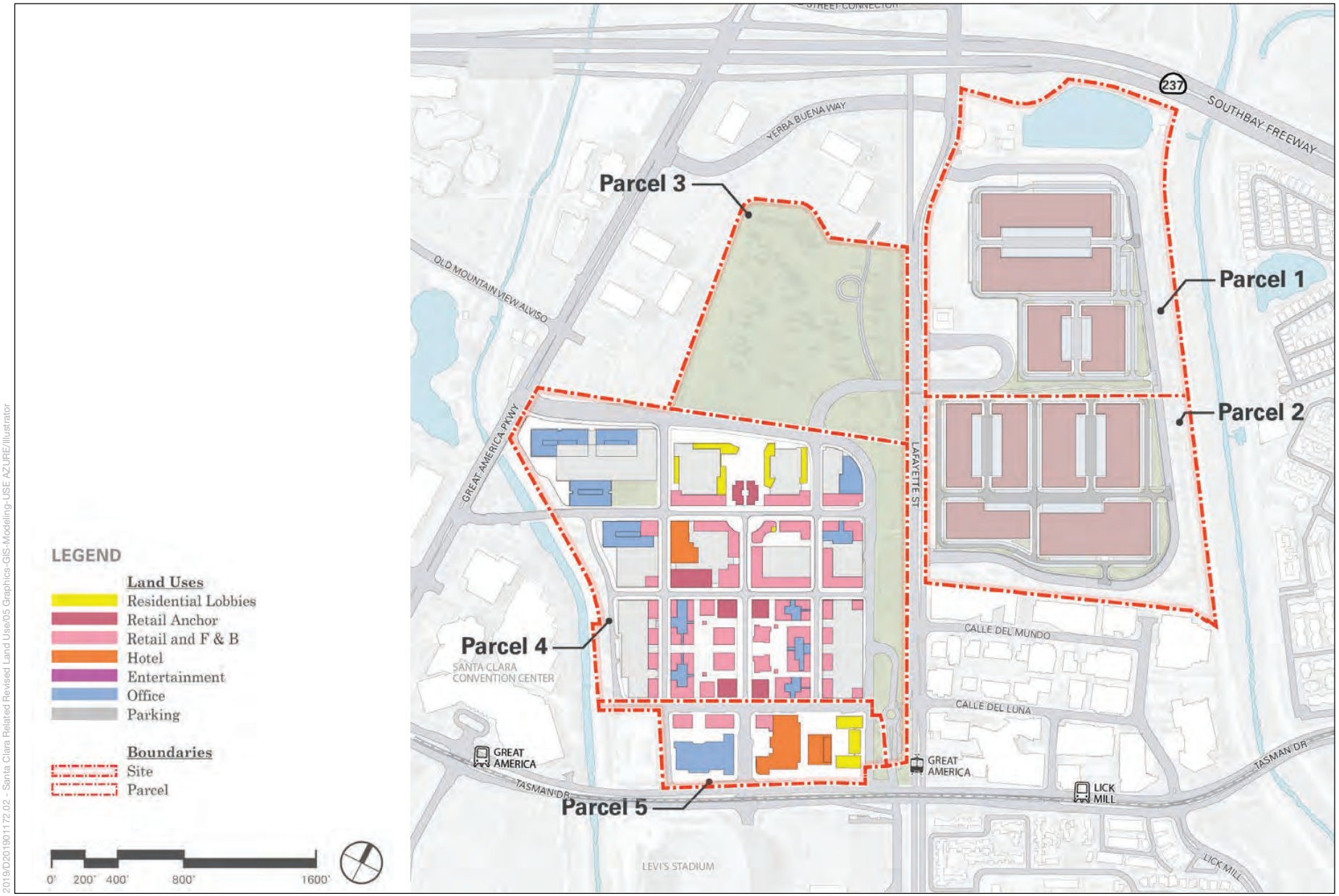
2019/D2019011172.02 - Santa Clara Related Revised Land Use/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: ESA, 2024; Google Earth, 2024

Related Santa Clara Scheme C

Figure 3
Existing Land Uses

ESA



2019/D2019011172.02 - Santa Clara Related Revised Land Use/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: Related Santa Clara

Related Santa Clara Scheme C

Figure 4
Scheme C Conceptual Land Use Plan Ground Floor

ESA

TABLE 1
LAND USE DEVELOPMENT COMPARISON BY SCHEME

	Scheme A (under IHA)	Scheme B	Scheme C	Difference Scheme A to Scheme C	Difference Scheme B to Scheme C
City Center Mixed Use (Parcels 4 and 5) (gsf)					
Office	1,372,400	2,852,400	4,517,400	+3,145,000	+1,665,000
Retail/Food and Beverage/Entertainment	1,502,000	1,502,000	800,000	-702,000	-702,000
Residential	1,680,000 (1,680 units)	200,000 (200 units)	1,680,000 (1,680 units)	(same number of units)	+1,480,000 (+1,480 units)
Hotel	578,000 (700 rooms)	578,000 (700 rooms)	567,000 (700 rooms)	-11,000 (same number of rooms)	-11,000 (same number of rooms)
Subtotal	*5,132,400*	*5,132,400*	*7,564,400*	*+2,432,000*	*+2,432,000*
Northeast Parcels (Parcels 1 and 2) (gsf)					
Office	4,032,000	3,832,000	0	-4,032,000	-3,832,000
Retail	-	200,000	0	0	-200,000
Industrial/Warehouse	-	-	1,600,000	+1,600,000	+1,600,000
Subtotal	*4,032,000*	*4,032,000*	*1,600,000*	*-2,432,000*	*-2,432,000*
Total Project (gsf)	**9,164,400**	**9,164,400**	**9,164,400**	**0**	**0**

NOTE:

Scheme C permits incidental retail and personal service uses primarily serving employees and customers of the principal light industrial use, not to exceed 10 percent of the floor area of the applicable building or campus. Scheme C also permits incidental office use primarily serving the administrative needs of the principal light industrial use, not to exceed 25 percent of the applicable floor area.

SOURCES:

ICF International, 2015. *City Place Santa Clara Project Draft Environmental Impact Report.* October 2015. Prepared for the City of Santa Clara. Available at: https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/135/3649.

Related Santa Clara, 2025. *Related Santa Clara Master Community Plan Scheme C Supplement, Chapter 8C, Infrastructure Overview – Scheme C Variant*. June 2025.

4.2.1 Light Industrial Land Use

As noted above, Scheme C differs from the Approved Project in that it proposes new land use on the northeast parcels. The proposed buildings under Scheme C would include up to 1,600,000 gsf of light industrial use on Parcels 1 and 2 and, as shown above in Table 1, and would increase the density of the approved uses in the southwestern area of the site (Parcel 4/City Center). Scheme C would not exceed the maximum build-out of 9.16 million square feet across the Project site specified in each development scheme.

The 1,600,000 gsf of industrial use could be built out for either a warehouse/distribution or for manufacturing. As mentioned above, the building heights on Parcels 1 and 2 would be one to two high-bay levels, or approximately 60 feet tall with up to half of the buildings reaching a height of up to 90 feet to accommodate upper-level commercial or light industrial uses. Potential warehouse uses could result in truck maneuvering and the operation of transportation refrigeration units (TRUs) as well as loading and unloading activities within the Project site.[10] Additionally, industrial uses would likely require large,

[10] As described in the MCP Scheme C Supplement, refrigerated warehouse space would be permitted up to a maximum of 50 percent of the building square footage on Parcels 1 and 2.

packaged heating, ventilation, and air conditioning (HVAC) systems as well as back-up diesel generators. Furthermore, the industrial/warehouse uses on Parcels 1 and 2 could operate 24 hours per day.

Scheme C would include a General Plan Amendment to revise the generally permitted uses under the Urban Center/Entertainment District land use classification to include the proposed light industrial uses. As described in the MCP Scheme C Supplement, permitted uses on Parcels 1 and 2 would include Small Power Plant Exempt (SPPE) data centers; incidental retail, restaurant, office and personal services; other incidental and accessory buildings and uses supporting permitted use, public and/or private parks and open spaces, and light industrial uses.[11] Permitted light industrial uses would include, but not be limited to, plants, facilities, or research laboratories with operations within an enclosed building that are not objectionable or detrimental to adjacent properties because of signing, noise, smoke, odor, dust, noxious gases, vibrations, glare, heat, fire hazards, or industrial wastes emanating from the property. Other light industrial uses include warehouses and distribution centers for storing, transferring and distributing products and materials, including logistics uses, distribution centers and "last mile" facilities for processing and redistribution of parcels within a localized region. Wholesalers would not be designed to solicit walk-in traffic. Refrigerated warehouse space would be permitted up to a maximum of 50 percent of the building square footage on Parcels 1 and 2.

4.2.2 Landscaping and Open Space

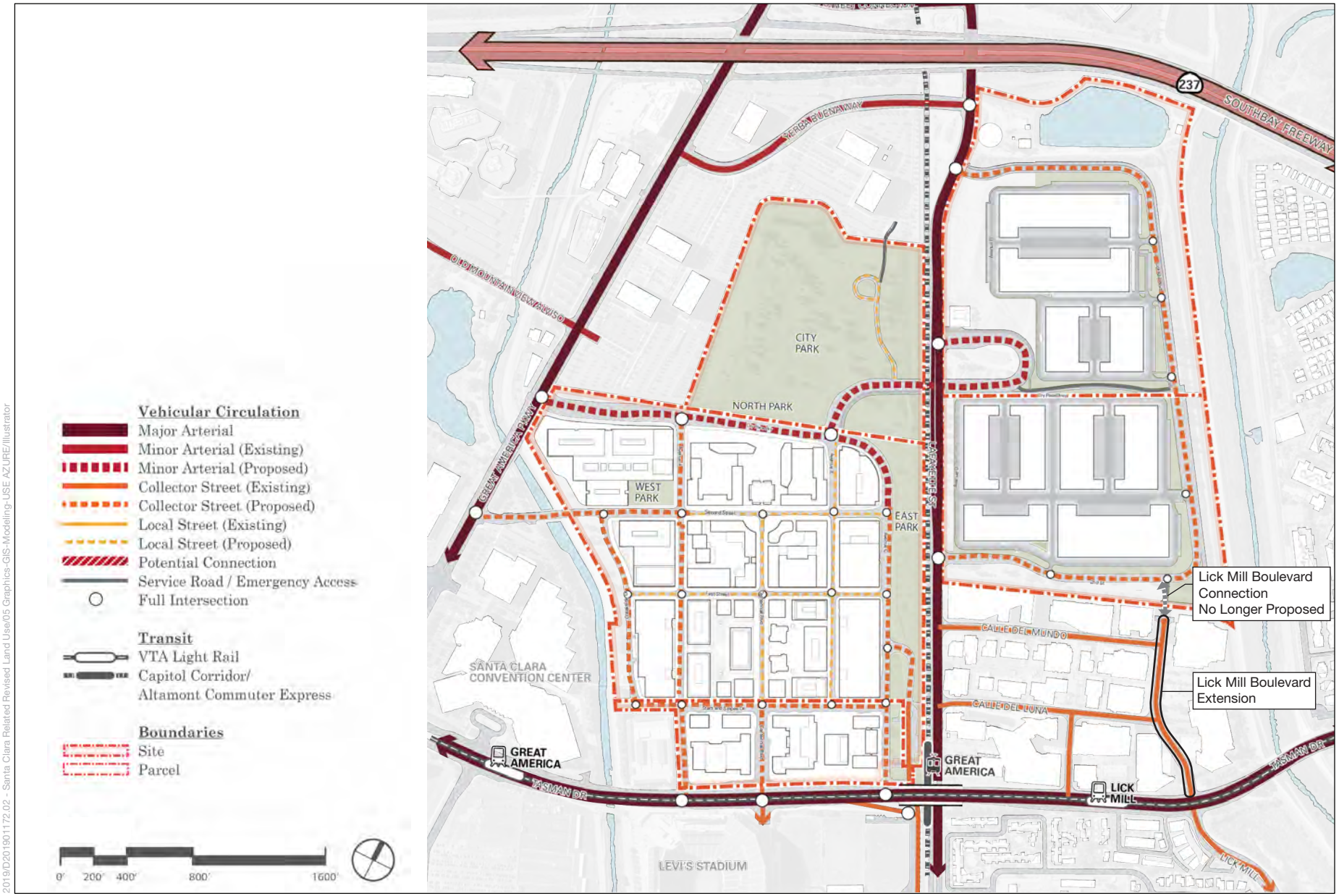
Scheme C would not alter the Approved Project's open space concept to develop an integrated network of shared outdoor spaces and sustainable landscapes including active plazas, creational areas, and green spaces linked through planned coherent streetscapes. The residential induced requirement for dedicated park and recreation land would not change under Scheme C.

The 2016 EIR assumed that all of the approximately 1,405 trees on the Project site would be removed. Additionally, the 2016 EIR assumed up to 234 trees would be removed in the Tasman East Specific Plan Area for the Lick Mill Boulevard Extension and up to 104 trees could be removed at the Convention Center for construction of the roadway from Great America Parkway over San Tomas Aquino Creek and the potential relocation of Fire Station 10.

4.2.3 Lick Mill Boulevard Extension/Lick Mill Connection/Site Circulation

Scheme C site vehicular access would revise the Approved Project site circulation in two ways. First, Scheme C would not include the (Lick Mill Connection) of the northeast parcels to the Lick Mill Boulevard Extension in the Tasman East Specific Plan Area (see **Figures 5 and 6**). As outlined in the

[11] The proposed General Plan Amendment and proposed MCP Scheme C Supplement include several categories of data center uses, including Non-Small Power Plant Exempt (Non-SPPE) Data Centers, Small Power Plant Exempt (SPPE) Data Centers, and Ancillary Data Centers. Non-SPPE Data Centers and Ancillary Data Centers require a minor use permit in the proposed MCP Scheme C Supplement. Therefore, while Non- SPPE Data Centers and Ancillary Data Centers are not analyzed in this CEQA Addendum, they would be subject to review for consistency with the 2016 EIR in conjunction with any minor use permit that is submitted in connection with establishment of such use. As defined in the MCP Scheme C Supplement, an SPPE Data Center must have obtained a Small Power Plant Exemption from the California Energy Commission, acting as the "lead agency" under Public Resources Code Section 25541, and the development, operation and use of the SPPE Data Center must comply with all applicable mitigation measures approved by the California Energy Commission.



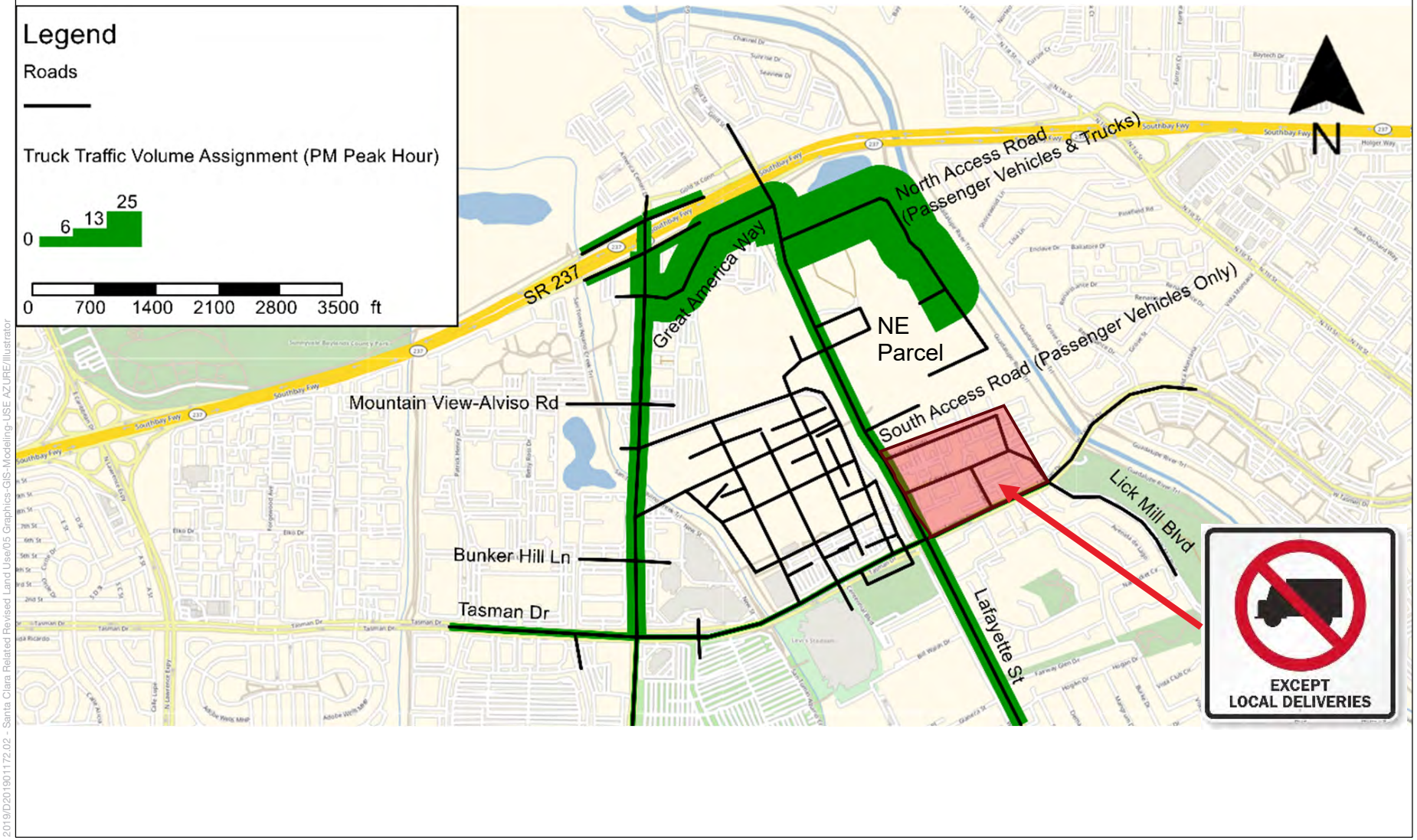
2019/D2019011172.02 - Santa Clara Related Revised Land Use/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: Related Santa Clara; Arup, 2024

Related Santa Clara Scheme C

Figure 5
Scheme C Street Network

ESA



2019/D2019011172.02 - Santa Clara Related Revised Land Use/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: Related Santa Clara; Arup, 2024

Related Santa Clara Scheme C

Figure 6
Truck Access to / from Northeast Parcels

ESA

Tasman East Specific Plan, Lick Mill Boulevard would extend through the Tasman East Specific Plan via a connection to the easterly portion of Calle Del Mundo.[12] However, Scheme C would no longer include a vehicular connection between Lick Mill Boulevard and the Project site road network.

Second, Scheme C would include a dedicated truck route to control truck movements associated with 24-hour truck operations for warehouse/distribution facilities. As shown on Figure 6, Scheme C would include a dedicated truck route that would limit truck access to and from the northeast parcels to the northern access road connecting to Lafayette Street just south of Great America Way.

4.2.4 Streetscape and Infrastructure Improvements

The 2016 EIR acknowledged that, as each phase is built, the on-site infrastructure necessary to support the development of the phase (e.g., road network, and wet and dry utility installations) would be constructed in the portion of the site where that phase is being developed. In some cases, it would be necessary to construct infrastructure in portions of the site where future phases would be developed to connect to existing infrastructure and provide a path that would serve the phase that is under development.

4.2.5 Project Construction

Consistent with the Approved Project, Scheme C's construction activities would consist of demolition of any existing structures, concrete retaining walls, paving, concrete, and other materials; excavation and grading; foundation and below-grade construction; construction of the buildings and finishing interiors; and construction of required infrastructure improvements on- and off-site. In addition, consistent with the Approved Project, construction activities would include a phased reconfiguration, replacement and modernization of portions of the existing Landfill operations monitoring, collection, and removal systems. Scheme C would result in the same construction-related import and off-haul trips as described and analyzed in the 2021 City Place Revised Soil Import and Earthwork Plans Project Addendum to the 2016 EIR. Scheme C could alter the construction phasing such that Parcels 1 and 2 are built and operational prior to the development of other project parcels. The increased density in Parcel 4 could result in an increased duration of the overall construction timeline for the City Center parcels. However, Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR and would not result in intensified construction emissions over a shorter period of time. Scheme C construction-related activity, including demolition, required infrastructure improvements on- and off-site, and general building locations and envelopes are similar to those analyzed for the Approved Project in the 2016 EIR. Scheme C construction would use similar equipment to the equipment analyzed in the 2016 EIR.

4.2.6 Sustainability and Efficiency

Scheme C would not result in a change of sustainability features compared to the Approved Project. Consistent with the Approved Project, Scheme C would pursue Leadership in Energy and Environmental Design (LEED) certification or incorporate equivalent measures. Additionally, Scheme C would install low-flow fixtures, implement a 10 percent indoor and 20 percent outdoor water use reduction strategy, and ensure a 50 percent solid waste reduction consistent with the design features outlined for the

[12] City of Santa Clara. *Tasman East Specific Plan Draft Environmental Impact Report,* July 2018. Available: https://www.santaclaraca.gov/home/showpublisheddocument/58796/636683060964930000. Accessed May 15, 2024.

Approved Project. In accordance with 2016 EIR Mitigation Measure **GHG-1.2, Operational GHG Emissions Reduction Measures,** Scheme C would obtain renewable energy electricity corresponding to 29 percent of on-site electricity demand by 2030 through a combination of on-site solar photovoltaic systems, purchase of renewable energy, or other measures. Additionally, as stated in the proposed MCP Scheme C Supplement, Scheme C would design office buildings against an Energy Use Intensity (EUI) target of 61.50 thousand British thermal units (kBtu) per square foot per year, which is expected to result in lower energy use for office space due to the use of less natural gas.

5. Summary of Findings

An evaluation of Scheme C is provided in the CEQA analysis in Section 6 that follows. This evaluation concludes that, on the basis of the substantial evidence, Scheme C qualifies for an addendum. Considering the proposed General Plan Amendment, Scheme C is consistent with the development density and land use characteristics established by the City of Santa Clara General Plan and zoning, and any potential environmental impacts associated with its development were adequately analyzed and covered by the analysis in the 2016 EIR.

Scheme C would be required to comply with the applicable mitigation measures identified in the 2016 EIR and approved in connection with the overall project approvals in 2016 (presented in Appendix A to this document). With implementation of the applicable mitigation measures, Scheme C would not result in a substantial increase in the severity of previously identified significant impacts in the 2016 EIR or result in any new significant impacts that were not previously identified in the 2016 EIR.

The 2016 EIR analyzed the impacts of development within the City Place Project site. Scheme C would not result in substantial changes or involve new information not already analyzed in the 2016 EIR because the level of development now proposed for the site is within the broader development assumptions analyzed in the 2016 EIR. . No new mitigation measures would be necessary to reduce significant impacts. No changes have occurred with respect to surrounding circumstances that would cause significant environmental impacts to which Scheme C would contribute considerably, and there is no new information of substantial importance that shows that Scheme C would cause new or substantially more severe significant environmental impacts. Therefore, Scheme C would not cause new significant impacts not previously identified in the 2016 EIR or result in a substantial increase in the severity of previously identified significant impacts, and no supplemental environmental review is required in accordance with Public Resources Code Section 21166, and CEQA Guidelines Sections 15162 through 15164.

Overall, based on an examination of the analysis, findings, and conclusions of the 2016 EIR, which are summarized in the CEQA analysis in Section 6 of this document, the potential environmental impacts associated with Scheme C have been adequately analyzed and covered in the 2016 EIR. Therefore, no further review or analysis under CEQA is required.

6. CEQA Analysis

6.1 Overview

The analysis in this Section summarizes the impacts and findings of the certified 2016 EIR. The analysis in this Section also provides a comparison of the Scheme C Project to the Approved Project analyzed in the 2016 EIR as well as a summary of the potential environmental impacts that may result from the Scheme C Project compared with those of the Approved Project. All mitigation measures identified in the 2016 EIR that would apply to the Scheme C Project are listed in the 2025 Mitigation Monitoring and Reporting Program, which is incorporated by reference into this CEQA Analysis as Appendix A to this document. If this Fourth Addendum to the 2016 EIR or its appendix inadvertently misidentifies or omits a mitigation measure identified in the 2016 EIR, the applicability of that mitigation measure to the Scheme C Project is not affected.

As demonstrated in this Addendum, none of the conditions for preparation of a subsequent EIR per CEQA Guidelines Section 15162 applies to Scheme C:

(a) When an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the lead agency determines, on the basis of substantial evidence in the light of the whole record, one or more of the following:

(1) Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:

(A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;

(B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

(b) If changes to a project or its circumstances occur or new information becomes available after adoption of a negative declaration, the lead agency shall prepare a subsequent EIR if required under subdivision (a). Otherwise the lead agency shall determine whether to prepare a subsequent negative declaration, an addendum, or no further documentation.

(c) Once a project has been approved, the lead agency's role in project approval is completed, unless further discretionary approval on that project is required. Information appearing after an approval does not require reopening of that approval. If after the project is approved, any of the conditions described in subdivision (a) occurs, a subsequent EIR or negative declaration shall only be prepared by the public agency which grants the next discretionary approval for the project, if any. In this situation no other responsible agency shall grant an approval for the project until the subsequent EIR has been certified or subsequent negative declaration adopted.

(d) A subsequent EIR or subsequent negative declaration shall be given the same notice and public review as required under Section 15087 or Section 15072. A subsequent EIR or negative declaration shall state where the previous document is available and can be reviewed.

This CEQA Analysis hereby incorporates by reference the discussion and analysis of all potential environmental impact topics as presented in the certified 2016 EIR. This CEQA Addendum uses a checklist approach to determine if the conditions of Section 15162 calling for preparation of a subsequent EIR are met. This checklist approach is based on significance criteria in the 2016 EIR to organize the analysis and provide a determination of whether the Scheme C Project would result in:

- Equal or Less Severity of Impact Previously Identified in the 2016 EIR;
- Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR; and/or
- New Significant Impact.

Where the severity of the impacts of the Scheme C Project would be the same as or less than the severity of the impacts described in the 2016 EIR, the checkbox for “Equal or Less Severity of Impact Previously Identified in the 2016 EIR” is checked.

Where the checkbox for “Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR” or “New Significant Impact” is checked, there would be a significant impact that is:

- Due to substantial changes in the Project;
- Due to substantial changes in circumstances under which the Project will be undertaken; and/or
- Due to substantial new information not known at the time the 2016 EIR was certified.

The 2016 EIR includes a robust cumulative analysis based on specific local projects in the City and adjacent cities, full implementation of City and County general plans, and where applicable, full implementation of the general plans of the nine Bay Area counties and associated cities. Therefore, any development that has occurred since certification of the 2016 EIR was included in the 2016 EIR’s analysis and there has been no change in circumstances that would result in a new significant impact or a more substantial significant environmental impact than previously disclosed (see the 2016 EIR Chapter 3 and the resource analyses in this Chapter 6).

Further, no new information of substantial importance has been provided or otherwise identified that would result in new or substantially more severe significant impacts. Although there may have been changes and updates to the relevant regulatory setting or Appendix G of the CEQA Guidelines, these changes are not considered new information of substantial importance as described in the CEQA Guidelines. Furthermore, they would not result in new physical impacts not previously analyzed or in substantially increasing the severity of previously identified physical impacts. Therefore, none of the aforementioned conditions were found for the Scheme C Project, as demonstrated above and throughout the following CEQA Analysis.

6.2 Land Use and Planning

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. Physically divide an established community;	☒	☐	☐
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.; or	☒	☐	☐
c. Conflict with any applicable habitat conservation plan or natural community conservation plan.	☒	☐	☐

6.2.1 2016 EIR Findings

Division of Existing Community, Conflict with Land Uses, Land Use Plans, or Habitat and Natural Community Conservation

The 2016 EIR found significant and unavoidable land use impacts related to conflicts with adopted City land use plans. Specifically, the Approved Project would conflict with the City's General Plan policies related to jobs/housing balance with secondary significant and unavoidable impacts on traffic, air quality, and GHG emissions. The 2016 EIR identified Mitigation Measure **LU-1.1, Increase Residential Density in the City's General Plan**, which directed the City to explore permitting higher residential densities, as well as allowing residential land uses in existing non-residential areas in the City's General Plan. This mitigation measure would be implemented by the City during the next General Plan update. However, because this mitigation measure relies on an iterative General Plan process ultimately requiring approval from City Council, it cannot be stated with certainty whether and when the mitigation measure will be implemented. In addition, adding new housing to the City's General Plan would only potentially reduce some of the impacts within the more immediate Project vicinity, but would not fully mitigate the Approved Project's effect on induced growth in the region and beyond. As a result, the measure would not reduce the effect to a less-than-significant level.

The 2016 EIR found that the Approved Project would conflict with the San José Mineta International Airport's 2011 Comprehensive Land Use Plan (CLUP), although this impact is disclosed with the noise analysis (see Section 6.7, *Noise*). The 2016 EIR determined that the Approved Project would not be consistent with the existing land use designation of Parks/Open Space (Parcels 1-4) and Regional Commercial (Parcel 5). However, the 2016 EIR determined that inconsistency with land use designations does not, by itself, constitute a significant environmental impact. In order to accommodate the Approved Project's high intensity, urban-oriented development, a new General Plan land use classification (Urban Center/Entertainment District) was proposed within the Mixed-Use Designations category.

The 2016 EIR Table 3.1-7 lists *City of Santa Clara 2010 – 2035 General Plan* goals and policies applicable to the Approved Project along with a consistency finding for each goal and policy. The determination of whether the Approved Project would conflict with applicable goals and policies was based on the environmental analysis provided in the resource sections of the 2016 EIR. Inconsistencies were identified for policies related to noise, jobs/housing ratio, air quality, and greenhouse gases. The

2016 EIR noted that a project can be generally consistent with a general plan even though the project may not promote every applicable goal and policy. Therefore, although some inconsistencies were identified, the 2016 EIR determined the Approved Project would be generally consistent with the overall General Plan, resulting in a less-than-significant impact.

No other land use plan conflicts were identified for the Approved Project. Furthermore, the Approved Project would result in no impacts related to the physical division of an established community or conflict with a habitat conservation plan or natural community conservation plan.

6.2.2 Project Analysis

Physical Division of an Established Community

Scheme C would occur within similar building height limits and the same Project site as the Approved Project.[13] The 2016 EIR determined that the Approved Project would have no impact on the physical division of an established community since there are no existing residential communities on the Project site. The Project site contains the same existing uses as the 2016 EIR (the Santa Clara Golf & Tennis Club facilities and golf course, Santa Clara Fire Station 10, Santa Clara Police Athletic League (PAL) Track, Ameresco Methane Plant, Eastside Retention Basin, and surface parking lots), however, the golf course and Fire Station 10 have since closed. The Project site still does not contain any existing residential communities and is not located in an area that separates an established community; thus, construction of Scheme C on the Project site would not physically divide an established community. Therefore, potential impacts of Scheme C relative to the Approved Project regarding the physical division of an established community would be equal to or less severe than impacts disclosed in the 2016 EIR.

Conflict with Land Uses / Land Use Plans

Land Uses

Scheme C proposes changes that would introduce a new light industrial use on the northeastern area of the Project site and would increase the density of approved uses on the southwestern area of the Project site. However, the Scheme C Project total development would remain the same as the maximum build-out assumed under the Approved Project (9.16 million gross square feet [gsf]) and thus remain within the impact envelope of the 2016 EIR.

At the time of the 2016 EIR, the Project site had land use designations of Parks/Open Space (Parcels 1-4) and Regional Commercial (Parcel 5) land uses. The land use for the Project site has since been changed to Urban Center/Entertainment District, which is intended for local- and regional-scale destinations that feature a mixture of some or all of the following: pedestrian-oriented commercial retail and services, urban residential, hotel and employment-generating uses within a defined planning area.[14] Therefore, Scheme C includes a General Plan Amendment to add a range of light industrial uses that may include

[13] As noted in Section 4.1 of this Addendum, the proposed MCP Scheme C Supplement would revise the formulation of the height limits to permit towers on Parcel 4 of up to approximately 10-12 stories, with a maximum building height consistent with ALUC regulations and Federal Aviation hazard limits pursuant to FAA Federal Aviation Regulations, FAR Part 77 criteria. Although this revision would remove the 219 feet above msl height limit on Parcel 4, the revised height limits would remain consistent with applicable General Plan Policy 5.10.5-P30 and General Plan Policy 5.10.5-P33 that require compatibility with the Airport Land Use Compatibility Plan and Federal Aviation Administration Federal Aviation Regulations, FAR Par 77 criteria hazard height limits at San José Mineta International Airport, respectively.

[14] City of Santa Clara, 2022. *City of Santa Clara General Plan Map,* November 2022. Available at: https://www.santaclaraca.gov/home/showpublisheddocument/82063/638327244287330000. Accessed June 4, 2024.

general service, warehousing, storage, distribution, manufacturing, and SPPE to the generally permitted uses on the Project site.[15] With adoption of this General Plan Amendment, land uses proposed for Scheme C would be considered consistent with the General Plan land use designation.

General Plan Consistency

As noted above, the 2016 EIR identified inconsistencies with policies related to noise, air quality, greenhouse gases, and jobs/housing ratio and these determinations were based on the environmental analysis provided in the associated resource sections of the 2016 EIR. Scheme C was reviewed for consistency with all applicable General Plan goals and policies listed in 2016 EIR Table 3.1-7 with a focus on goals and policies found to be inconsistent with the Approved Project as well as goals and policies relevant to Scheme C's proposed land use classification and density changes. As described below in Sections 6.5, *Air Quality*; 6.6, *Greenhouse Gas Emissions*; 6.7, *Noise*; and 6.13, *Population and Housing*; and described below with regard to jobs/housing ratio, Scheme C would not result in new or more severe significant impacts than those disclosed in the 2016 EIR for these environmental topics and would result in the same General Plan consistency finding disclosed in the 2016 EIR for the Approved Project.

Scheme C would be inconsistent with the same goals and policies related to noise, jobs/housing ratio, air quality, and greenhouse gases as the Approved Project. Specifically, like the Approved Project, Scheme C would result in increased traffic noise levels on surrounding roadway segments, new residents and hotel occupants exposed to elevated noise levels from stadium events and other noise, and would extend some City streets without noise reduction measures. Scheme C would develop residential uses in locations inconsistent with the 2011 Airport Land Use Compatibility Plan and would result in significant and unavoidable air quality and GHG emissions impacts similar to those disclosed in the 2016 EIR for the Approved Project.

The Scheme C MCP Supplement includes a preliminary site plan that creates a buffer between industrial structures and surrounding residential uses and concentrates loading operations in the interior sections of the site; restricts truck movements to the least impactful routes; and includes a design guideline requiring that loading docks on Parcels 1 and 2 be located a minimum of 500 feet from the nearest sensitive receptor. Therefore, Scheme C would be consistent with General Plan Goal 5.3.3-G4 requiring commercial uses to be sited to reduce land use conflicts. For the same reason, Scheme C's site plan would be consistent with General Plan Policy B-4 by promoting compatibility between neighborhoods while respecting differences in neighborhood character.

General Plan Policy 5.3.1-P4 states the City should encourage "new development that meets the minimum intensities and densities specified in the land use classifications or as defined through applicable Focus Area, Neighborhood Compatibility or Historic Preservation policies of the General Plan." Table 6.2-1, below, relies on the methodology for calculating average floor area ratio (FAR) across

[15] The proposed MCP Scheme C Supplement include several categories of data center uses, including Non-SPPE Data Centers, SPPE Data Centers, and Ancillary Data Centers. Non-SPPE Data Centers and Ancillary Data Centers require a minor use permit in the proposed MCP Scheme C Supplement. Therefore, while Non- SPPE Data Centers and Ancillary Data Centers are not analyzed in this CEQA Addendum, they would be subject to review for consistency with the 2016 EIR in conjunction with any minor use permit that is submitted in connection with establishment of such use. As defined in the MCP Scheme C Supplement, an SPPE Data Center must have obtained a Small Power Plant Exemption from the California Energy Commission, acting as the "lead agency" under Public Resources Code Section 25541, and the development, operation and use of the SPPE Data Center must comply with all applicable mitigation measures approved by the California Energy Commission.

the Project site used in the 2016 EIR. Although Scheme C would introduce new light industrial uses to the northeast parcels and increase the density of the approved uses on Parcel 4, the average FAR across the Project site would be 0.85, which is below the gross FAR limit of 1.0 identified in the 2016 EIR. Therefore, Scheme C would be consistent with General Plan Policy 5.3.1-P4.

TABLE 6.2-1
SCHEME C FAR

Parcel	Approved Project Acreage[a]	Proposed Development (gsf)	FAR[b]
Parcel 1 / 2	97.7	1,600,000	0.38
Parcel 3	34.9	-	-
Parcel 4	86.6	6,520,269	1.73
Parcel 5	8.0	1,044,131	3.0
Retention Basin	12.8	-	-
Total	**1920.8**	**9,164,400**	**0.85** [a]

NOTE: gsf = gross square feet

a. The Approved Project acreage is the same as the Scheme C acreage.
b. Average FAR at Project site.

General Plan Policy 5.10.5-P24 states that a project should "protect City residents from the risks inherent in the transport, distribution, use and storage of hazardous materials." As discussed in Section 6.12, *Hazards and Hazardous Materials,* Scheme C's industrial operations may result in warehouse and distribution facilities that store and transport hazardous materials as products for distribution. However, products that contain hazardous materials would be contained within packaging designed to prevent leakage during storage and transportation pursuant to applicable regulatory requirements. Additionally, Scheme C would include a dedicated truck route to control truck movements associated with 24-hour truck operations for warehouse/ distribution facilities and to limit truck access to and from the northeast parcels. Furthermore, compliance with the requirements of existing laws and regulations, such as those listed in the federal Resource Conservation and Recovery Act, the Toxic Substances Control Act, and the Hazardous Material Transportation Act, would be mandatory (see 2016 EIR Section 3.11, *Hazards and Hazardous Materials*). Therefore, Scheme C would be consistent with General Plan Policy 5.10.5-P24.

In addition to goals and policies listed in Table 3.1-7 of the 2016 EIR, several additional General Plan goals and policies are applicable to Scheme C's proposed industrial use. Scheme C would introduce new light industrial uses to the northeast parcels and therefore would be consistent General Plan Goal 5.3.5-G2 and Policy 5.3.5-P12, which encourage the City to promote the development of industrial land to meet the demand for local employment. General Plan Policy 5.3.5-P19 restricts "the use and storage of hazardous materials for industrial uses within 500 feet of existing residential uses." As noted above and in Appendix D, *Related Santa Clara Scheme C Noise Report*, the nearest sensitive receptors are the residential uses along Calle del Mundo. While these residences would be within 500 feet of the proposed structures, they would be 500 feet from the loading docks within the interior of the building clusters (see Figure 4, above), as set forth in the MCP Scheme C Supplement. However, final site plans for Parcels 1 and 2 would be submitted to the City for review and approval as a part of the DAP application, and depending on the end user, Scheme C could potentially be inconsistent with Policy 5.3.5-P19.

The 2016 EIR determined that the ultimate finding of General Plan consistency does not require that a project be entirely consistent with each individual General Plan policy and a proposed project can be generally consistent with a general plan even though the project may not promote every applicable goal and policy. Therefore, Scheme C would remain generally consistent with applicable goals and policies.

Jobs/Housing Balance

The 2016 EIR analysis of jobs/housing balance considered Scheme B, which does not include housing on Parcel 4, as a worst-case analysis because Scheme B has a higher amount of employment, and a lower amount of housing compared to Scheme A. At full-buildout, Scheme B would generate up to 28,720 jobs and 200 residential units resulting in approximately 143.6 jobs per housing unit. Comparatively, Scheme C would generate approximately 24,071 new jobs and 1,680 residential units resulting in approximately 14.33 jobs per housing unit (see Section 6.13, *Population and Housing*). Although Scheme C may not improve the City's overall jobs/housing balance, it would result in an improved jobs/housing ratio compared with the Approved Project Scheme B analyzed in the 2016 EIR. Therefore, Scheme C would result in impacts equal to or less severe than impacts disclosed in the 2016 EIR.

To address jobs/housing balance policy conflicts and associated secondary significant and unavoidable impacts on traffic, air quality, and GHG emissions; Mitigation Measure **LU-1.1** described in the 2016 EIR directed the City to explore permitting higher residential densities in the City during the next General Plan Update Cycle. The *City of Santa Clara 2023 – 2031 Housing Element*, adopted after the 2016 EIR in 2024, includes Policies B-2 and B-5 which encourage high density residential development in the City as well as Action 9, which is a comprehensive update to the Zoning Ordinance to reflect the current goals and policies of the 2010- 2035 General Plan.[16] As of July 2024, the Zoning Code was updated and includes changes that are consistent with and implement the 2010-2035 General Plan.[17] In addition, the City has proposed an amendment to the Tasman East Specific Plan that would allow an additional 1,500 units within the existing Specific Plan boundaries and would reduce the impact of the jobs/housing ratio.[18] In addition, the City has taken up additional initiatives and is considering or has approved specific plans that will add additional residential units within the City. Nonetheless, and as mentioned above, this mitigation measure relies on an iterative General Plan process which may result in additional General Plan and zoning changes ultimately requiring approval from City Council and cannot be stated with certainty whether policies enacted since the 2016 EIR have mitigated this impact to a less-than-significant level. Overall, Scheme C and the cumulative scenario would not result in a new significant impact or a more severe significant impact than was disclosed in the 2016 EIR with respect jobs/housing balance and associated secondary land use impacts as identified in the 2016 EIR.

Airport 2011 Comprehensive Land Use Plan

The 2016 EIR determined that the Approved Project would be inconsistent with the 2011 San José Mineta International Airport CLUP and the City's General Plan related to Airport Noise because the western part of Parcel 5 and the southwestern part of Parcel 4 were within the 65 A-weighted decibels (dBA)

[16] City of Santa Clara. *2023-2031 Housing Element*, updated May 7, 2024. Available: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan/housing-element-update. Accessed May 15, 2024.

[17] City of Santa Clara. *Zoning Code Update.* Available: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/zoning/zoning-code-update. Accessed November 11, 2024.

[18] City of Santa Clara. *Tasman East Specific Plan*, updated February 28, 2023. Available: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/specific-plans/tasman-east. Accessed May 15, 2024.

community noise equivalent level (CNEL) noise contour and, according to the 2011 CLUP noise policies, multi-family residential uses are "Generally Unacceptable" between the 65 and 70 dBA CNEL noise contours.[19] Mitigation Measure **NOI-1.3** was identified to reduce interior noise levels for residential uses to 45 dB CNEL or less. However, like the Approved Project, Scheme C would include outdoor residential areas located within the airport's 65 dB CNEL contour identified in the 2011 CLUP. Therefore, Scheme C would result in the same land use that was deemed not compatible with the 2011 CLUP and at worse the same significant and unavoidable land use policy impact identified in the 2016 EIR for the reasons explained in Section 6.7, *Noise*.[20] However, the Approved Project site is no longer within the area of influence for the airport and the ALUC has determined that no review of the Scheme C proposal concerning CLUP consistency is necessary. Thus, this inconsistency identified for the Approved Project may be deemed to have been superseded and no longer pertain.

As described in the 2016 EIR, the inconsistency with land use designations does not, by itself, constitute a significant environmental impact because the land use designations were not enacted to mitigate or lessen environmental effects as a primary objective. Scheme C would be generally consistent with applicable goals, policies, and actions adopted for the purpose of avoiding or mitigating environmental effect, therefore resulting in a less-than-significant impact, which would be equal to or less severe than the impact disclosed in the 2016 EIR.

Habitat and Natural Community Conservation Plans

The 2016 EIR determined that the Approved Project would have no impact on habitat and natural community conservation plans. Scheme C would occur within the same Project site as the 2016 EIR, which is located outside of the Santa Clara Valley Habitat Plan (SCVHP) area.[21] Scheme C would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state Habitat Conservation Plan, as there are no such plans in the Project site vicinity. Therefore, the potential impacts of Scheme C on habitat and natural community conservation plans relative to the Approved Project would be the same as disclosed in the 2016 EIR.

Cumulative Land Use and Planning Impacts

As described above, Scheme C would not result in an increase in the severity of previously identified land use and planning impacts including conflicts with land uses and land use plans . In addition, Scheme C would not increase (and would in fact decrease) the severity of previously-identified conflicts with land use plans concerning jobs/housing balance and airport noise. Therefore, Scheme C's incremental

[19] In March 2024, the County Airport Land Use Commission (ALUC) adopted an update to its CLUP. The CLUP contains the same policies as outlined in Section 6.7, *Noise*, for the 2011 CLUP. However, the updated CLUP contains revised Noise Contours for airport operations. Based on the 2024 contours contained in Figure 5 of the 2024 CLUP, the City Center parcels and Parcels 1 and 2 are no longer within the 65 CNEL noise contour for airport operations. Santa Clara County Airport Land Use Commission. *Airport Land Use Compatibility Plan, Santa Clara County, San Jose Mineta International Airport*, updated March 27, 2024. Available at: https://stgenpln.blob.core.windows.net/document/ALUC_SJC_CLUP.pdf. Accessed November 11, 2024.

[20] In March 2024, the ALUC adopted an update to its CLUP. The updated CLUP that contains the same policies as outlined above for the 2011 CLUP. However, the updated CLUP contains revised Noise Contours for airport operations. Based on the 2024 contours contained in Figure 5 of the 2024 CLUP, the City Center parcels and Parcels 1 and 2 are no longer within the 65 CNEL noise contour for airport operations.

[21] Santa Clara County, 2012. *Final Santa Clara Valley Habitat Conservation Plan,* August 2012. Available at: https://www.scv-habitatagency.org/178/Santa-Clara-Valley-Habitat-Plan. Accessed June 5, 2024.

contribution would not result in new significant cumulative impacts compared to those disclosed in the 2016 EIR.

6.2.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant impact and no substantial increase in the severity of a significant impact on land use or planning than was disclosed in the 2016 EIR. Mitigation Measures **LU-1.1, Increase Residential Density in the City's General Plan**, and **NOI-1.3 Prepare and Implement a Noise Control Plan to Reduce Interior Noise at Sensitive Land Uses** (see Section 6.7, *Noise*, in Appendix A) would be applicable to and would be implemented for Scheme C, and would ensure that impacts related to land use and planning would be equal to, or less severe than, those previously identified and disclosed in the 2016 EIR.

6.3 Aesthetics

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
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 along a scenic highway;	☒	☐	☐
c. Substantially degrade the existing visual character or quality of the site and its surroundings; or	☒	☐	☐
d. Create a new source of substantial light or glare which would substantially and adversely affect daytime or nighttime views in the area.	☒	☐	☐

6.3.1 2016 EIR Findings

Scenic Vistas, Scenic Resources, and Visual Character

The 2016 EIR found that Approved Project construction would temporarily degrade visual character and quality, and identified mitigation measures that would reduce these impacts to less-than-significant levels. Approved Project operation would substantially increase building height, mass, and bulk compared to existing conditions. However, all buildings would be consistent with the existing surrounding built environment and with the design guidelines and development standards outlined in the MCP, thus the 2016 EIR determined that the Approved Project would have a less-than significant impact on the on-site visual character.

The 2016 EIR identified public corridors with views of the Project site which includes SR 237, Lafayette Street, Tasman Drive, Great America Parkway/Great America Way, residential neighborhoods in Santa Clara and San José, San Tomas Aquino Trail, and Ulistac Natural Area. The views from these corridors are not considered to be sensitive or a scenic vista, corridor, or resource. The Approved Project would alter existing views of the Santa Cruz Mountains and the Diablo Range, particularly from the San Tomas Aquino Trail and Ulistac Natural Area, but the 2016 EIR determined that these impacts would be less-than-significant. Construction of the Approved Project could change the recreational views along the Guadalupe River Trail, but these impacts would be reduced to a less-than-significant level with implementation of mitigation measures. The 2016 EIR identified Mitigation Measures **AES-1.1** and **AES-1.2**, which would protect visual character by guiding where imported soils would be stored, when existing trees would be removed, and when landscaping would be implemented. Additionally, no impacts were identified for scenic resources along a State Scenic Highway or scenic vistas.

Light and Glare

The 2016 EIR found that the new buildings and increased on-site activity would result in an increase in lighting in the area. Additionally, light and glare from vehicle headlights on levels of the above-ground parking would potentially spill onto adjacent properties. Similarly, the 2016 EIR conservatively assumed that implementation of the Approved Project could result in glare to the surrounding area. The 2016 EIR identified Mitigation Measures **AES-2.1** through **AES 2.4**, requiring low-profile lighting, shielded light fixtures, treated reflective surfaces, and obstruction for glare from vehicle headlights addressing significant

impacts related to new sources of light and glare. These mitigation measures would reduce these impacts to less-than-significant levels.

6.3.2 Project Analysis

Scenic Vistas and Scenic Resources

Scheme C would occur within the similar building height limits and the same Project site as the Approved Project.[22] The 2016 EIR determined that the Approved Project would have no impact on scenic resources within a state or locally designated scenic highway. There has been no change to designated State Scenic Highways in the Project site vicinity since the 2016 EIR. The closest officially designated State Scenic Highway is State Route (SR) 9, which is located approximately 10.7 miles southwest of the Project site. I-280, which is approximately 5.7 miles southwest of the Project site, and I-680, which is approximately 5.6 miles northeast of the Project site, are designated as eligible State Scenic Highways.[23] Therefore, the potential impacts of Scheme C on scenic resources within a state scenic highway relative to the Approved Project would be the same as disclosed in the 2016 EIR.

Similarly, the 2016 EIR determined that the Approved Project would have no impact on a scenic vista since the City does not have any officially designated scenic vistas. The Project site would remain the same as the Approved Project and thus the potential impacts of Scheme C on scenic vistas also would be the same as disclosed in the 2016 EIR.

Visual Character

Construction

Although Scheme C would introduce new light industrial uses, no change is proposed to the overall total gross square footage being developed across the Project site. Scheme C would occur within similar building height limits and the same Project site as the Approved Project. The increased density in Parcel 4 could result in an increased duration of the construction timeline in the City Center parcels. However, Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR and would not result in intensified construction emissions over a shorter period of time. Scheme C construction-related activity, including demolition, would require infrastructure improvements on- and off-site, and general building locations and envelopes that are similar to those analyzed for the Approved Project in the 2016 EIR. Scheme C construction would use similar equipment to the equipment analyzed in the 2016 EIR.

At the time of the 2016 EIR, the closest residential neighborhood was 0.25 mile southeast of the Project site and was separated by the Tasman Drive overcrossing and the Tasman East office/industrial park. Since then, the Tasman East Specific Plan Area has been developed to include residential mixed-use buildings and has approved plans to develop a high-density transit-oriented neighborhood with supportive

[22] As noted in Section 4.1 of this Addendum, the proposed MCP Scheme C Supplement would revise the formulation of the height limits to permit towers on Parcel 4 of up to approximately 10-12 stories, with a maximum building height consistent with ALUC regulations and Federal Aviation hazard limits pursuant to FAA Federal Aviation Regulations, FAR Part 77 criteria. Although this revision would remove the 219 feet above msl height limit on Parcel 4, the revised height limits would remain consistent with applicable General Plan Policy 5.10.5-P30 and General Plan Policy 5.10.5-P33 that require compatibility with the Airport Land Use Compatibility Plan and Federal Aviation Administration Federal Aviation Regulations, FAR Par 77 criteria hazard height limits at San José Mineta International Airport, respectively.

[23] California Department of Transportation, 2024. *California State Scenic Highways.* Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed June 12, 2024.

retail services. This area is located directly to the south of Parcel 2 and across Lafayette Street from Parcels 4 and 5. Therefore, the closest residential neighborhood would now have direct views of construction activities and would represent a new, sensitive viewer group. However, the 2016 EIR identified the Guadalupe River Trail users as being a sensitive viewer group and the new Tasman East Specific Plan residents would experience similar visual impacts to what was assumed for this group. The visual effects of construction activities would not be permanent, and the Project site would appear similar to other construction sites, which is not unusual in urban areas. However, the 2016 EIR concluded that the extended period of time, these construction sites would be visible to sensitive viewers would result in a significant impact. The increased density in Parcel 4 could result in an increased duration of the construction timeline for the City Center parcels. However, Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR and would not result in intensified construction emissions over a shorter period of time. Scheme C construction-related activity, including demolition, required infrastructure improvements on- and off-site, and general building locations and envelopes are similar to those analyzed for the Approved Project in the 2016 EIR. Scheme C construction would use similar equipment to the equipment analyzed in the 2016 EIR. Therefore, Scheme C would result in a similar significant impact. Mitigation Measures **AES-1.1** and **AES-1.2** would apply equally to the implementation of Scheme C as they do to the Approved Project analyzed in the 2016 EIR.

Additionally, the 2016 EIR assumed a total of approximately 75,620 cubic yards (CY) of soil would be moved to Parcel 2 from Parcels 1 and 5, which would potentially be visible to Guadalupe River Trail users. The Soils and Stockpiling Addendum (Third Addendum to the 2016 EIR) determined that the excavated soil from Parcel 5 would not be moved to Parcel 2, and therefore only the 46,750 CY of soil from Parcel 1 would be moved to Parcel 2. Scheme C would store the stockpiled soil in compliance with 2016 EIR Mitigation Measure **AES-1.1, Imported Material Storage.** Furthermore, implementation of 2016 EIR Mitigation Measure **AES-1.2, Early Implementation of Master Community Plan Landscaping Plan for Parcels 1 and 2** would allow for the existing golf course trees along the eastern edge of Parcel 2 to be temporarily retained until construction activities necessitate their removal, which would preserve existing views from the Guadalupe River trail for as long as possible. Implementation of these mitigation measures would mitigate the impact on visual character to a less-than-significant level.

Operation

While the development of the Approved Project would substantially increase building height, mass, and bulk compared to existing conditions; considering the development as a whole including Complete Streets design, landscaping, and tree replacement plan, the 2016 EIR determined that the Approved Project would result in a less-than-significant impact on the on-site visual character. Approved Project building heights were analyzed for potential effects on view corridors along State Route 237, Tasman Drive, Great America Parkway/Great America Way, surrounding residential neighborhoods and parks, Guadalupe River Trail, San Tomas Aquino Creek Trail, and the Ulistac Natural Area. The 2016 EIR determined that the Approved Project's building height would interrupt some existing views of the Santa Cruz Mountains and the Diablo Range but would not represent a substantial degradation of visual quality or result in a significant impact on visual character. To the extent that Approved Project building height and scale would be visible, the development would be consistent with the surrounding built environment including the Santa Clara Gateway office complex, the Convention Center, Hyatt Regency Hotel, and Levi's Stadium and could introduce the beneficial effect of interconnectivity linking the Project site to the broader context.

Scheme C would be within similar building height limits assumed for the Approved Project in the 2016 EIR. As noted in Section 4.1 of this Addendum, the proposed MCP Scheme C Supplement would revise the formulation of the height limits to permit towers on Parcel 4 of up to approximately 10-12 stories, with a maximum building height consistent with ALUC regulations and Federal Aviation hazard limits pursuant to FAA Federal Aviation Regulations, FAR Part 77 criteria. Although this revision would remove the 219 feet above msl height limit on Parcel 4, the height would remain consistent with neighboring built development, including the Tasman East Specific Plan, which is subject to a similar FAA height limitation. Further, the revised height limits would remain consistent with applicable General Plan Policy 5.10.5-P30 and General Plan Policy 5.10.5-P33 that require compatibility with the Airport Land Use Compatibility Plan and Federal Aviation Administration Federal Aviation Regulations, FAR Par 77 criteria hazard height limits at San José Mineta International Airport, respectively. Therefore, like the Approved Project analyzed in the 2016 EIR, Scheme C would have a less-than-significant impact on the on-site visual character. Similarly, Scheme C would result in the same less-than-significant impacts on the public corridors that have views of the Project site. As mentioned above, the developing Tasman East Specific Plan Area represents a new area with views of the Project site. However, Scheme C development would not obscure any scenic vistas, damage scenic resources, or degrade the visual quality of the area. In addition, views from the Tasman East Specific Plan are not within a designated view corridor. Since private views of a project's neighbors are not protected under CEQA, impacts from Scheme C would be less-than-significant.

In addition, like the Approved Project, Scheme C buildings would be consistent with the surrounding built environment and would be consistent with the guidelines and development standards outlined in the MCP. Therefore, Scheme C would have a less-than-significant impact on the overall degradation of existing visual character and quality, consistent with the findings of the 2016 EIR.

Light and Glare

Although Scheme C would introduce new light industrial uses, no change is proposed to the overall total gross square footage being developed across the Project site or the locations where development would occur. The 2016 EIR concluded that light and glare from vehicle headlights on the levels of the aboveground parking could be a nuisance to motorists and occupants of the surrounding uses and that implementation of Mitigation Measure **AES-2.4, Provide Obstruction for Glare from Vehicle Headlights in the Proposed Garages**, would reduce the potential impact to a less-than-significant level.

Proposed warehouse/distribution facilities would involve 24-hour trucking operations that could result in similar light and glare impacts. Therefore, 2016 Mitigation Measure **AES-2.4** is amended below, shown in underline and ~~strikethrough~~, to more directly address Scheme C.

> **AES-2.4: Provide Obstruction for Glare from Vehicle Headlights along designated truck routes and in the Proposed Garages.** The Project Developer shall ensure that through the architectural design of the parking garages and through or in combination with landscaping or physical screening at the parking structures and along designated truck routes and areas surrounding truck loading docks, glare from vehicle headlights shall be screened from off-site viewers.

The significant impacts related to light and glare would be mitigated to a less-than-significant level by implementation of 2016 EIR Mitigation Measures **AES-2.1, Installation of Low-Profile Lighting**; **AES-2.2, Installation of Shielded Fixtures**; **AES-2.3: Treat Reflective Surfaces**; and the amended **AES-2.4: Provide Obstruction for Glare from Vehicle Headlights along designated truck routes and in the Proposed Garages**. In addition, Scheme C would be required to adhere to the MCP standards and guidelines including design principles related to light and glare.

Cumulative Aesthetics Impacts

As described above, Scheme C would not result in an increase in the severity of previously identified less-than-significant aesthetics impacts including degradation of visual character or quality and creating substantial new sources of light or glare. Therefore, Scheme C's incremental contribution would not be cumulatively considerable because Scheme C would not result in new significant impacts compared to those disclosed in the 2016 EIR.

6.3.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant impact and no substantial in the severity of a significant impact with respect to aesthetics than was disclosed in the 2016 EIR. The 2016 EIR Mitigation Measures **AES-1.1, Imported Material Storage; AES-1.2, Early Implementation of Master Community Plan Landscaping Plan for Parcels 1 and 2; AES-2.1, Installation of Low-Profile Lighting**; **AES-2.2, Installation of Shielded Fixtures**; **AES-2.3: Treat Reflective Surfaces**; and **AES-2.4: Provide Obstruction for Glare from Vehicle Headlights along designated truck routes and in the Proposed Garages**, as revised, (see Appendix A) would be applicable to and would be implemented by Scheme C and would ensure that impacts related to aesthetics would remain at a less-than-significant level.

6.4 Transportation and Circulation

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
e. Cause an impact to signalized intersection level of service (LOS) per the criteria for each jurisdiction within the study area as described below. **City of Santa Clara** Significant impacts at signalized City of Santa Clara intersections would occur when the addition of project traffic would cause one of the following: • Intersection operations degrade from an acceptable level (LOD D or better) to an unacceptable level (LOS E or F), or • Unacceptable operations are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or • Unacceptable operations are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change. The City of Santa Clara has established a minimum acceptable operation level of service of LOS D for local streets and LOS E for CMP designated facilities (City of Santa Clara 2010). **City of Sunnyvale** Significant impacts at signalized City of Sunnyvale intersections would occur when the addition of project traffic would cause one of the following: • Intersection operations (except those on designated regionally significant roads) degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or LOS F), or • Operations for regionally significant designated intersections deteriorate from an acceptable level (LOS E or better) to an unacceptable level (LOS F), or • Unacceptable operations are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or • Unacceptable operations are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change. The City of Sunnyvale uses a, LOS D standard for local street intersections and a, LOS E standard for regionally significant roadways (also CMP facilities), including Caribbean Drive, Mathilda Avenue, Sunnyvale/Saratoga Road, El Camino Real, Central Expressway, Lawrence Expressway, and CMP facilities that are under the Sunnyvale General Plan, consolidated in July 2011 (City of Sunnyvale 2011).	☒	☐	☐

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
City of San José Significant impacts at signalized City of San José study intersections would occur when the addition of project traffic would cause one of the following: • Intersection operations degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F), or • Unacceptable operations (LOS E or F) are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or • Unacceptable operations are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change. The City of San José's minimum threshold for acceptable signalized intersection operations is LOS D, unless governed by an Area Development Policy or protected intersection designation. Several San José intersections are within the boundaries of the North San José Development Area (see Figure 3.3-1) [see the 2016 EIR Section 3.3]. For the purpose of this analysis, LOS D is used as the minimum threshold for all signalized study intersections in San José, including Santa Clara County and CMP intersections in the North San José Development Area (City of San José 2009). **City of Milpitas** Significant impacts at signalized City of Milpitas intersections would occur when the addition of project traffic would cause one of the following: • Intersection operations degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F), or • Unacceptable operations (LOS E or F) are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or • Unacceptable operations (LOS E or F) are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change. The City of Milpitas has established a minimum acceptable operating level of LOS D for intersections that are excluded from the CMP (City of Milpitas 2002). **Santa Clara County and Congestion Management Program** The LOS standard for Santa Clara County (2013 VTA Congestion Management Program) expressway and CMP intersections is LOS E. Traffic impacts at these intersections would occur when the addition of traffic associated with a project would cause one of the following: • Intersection operations degrade from an acceptable level (LOS E or better) to an unacceptable level (LOS F), or			

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
• Unacceptable operations (LOS F) are exacerbated by increasing critical delay by more than 4 seconds and increasing the V/C ratio by 0.01 or more, or • Unacceptable operations (LOS F) are exacerbated by increasing the V/C ratio by 0.01 or more when the change in critical delay is negative (i.e., decreases). This can occur if the critical movements change.			
f. Cause a significant impact to occur at an unsignalized intersection due to the addition of project traffic causing the average intersection delay for all-way stop-controlled intersections or the worst movement/approach for side-street stop-controlled intersections to degrade to LOS F when the intersection satisfies the peak-hour signal warrant from CA MUTCD.	☒	☐	☐
g. Cause an impact to freeway segment LOS per the criteria for each jurisdiction within the study area as described below. **Santa Clara County** Significant traffic impacts to freeway segments would occur when the addition of project traffic would cause: • Freeway segment operations to degrade from an acceptable level (LOS E or better) to an unacceptable level (LOS F), or • Traffic to increase by more than 1 percent of the capacity of a segment that operates at LOS F. **San Mateo County** Significant traffic impacts to freeway would occur when: • The addition of project traffic causes the freeway segment to operate at an LOS that violates the LOS standard adopted in the current Congestion Management Program (CMP), or • When the cumulative analysis indicates that the combination of the project and future cumulative traffic demand will cause the freeway segment to operate at an LOS that violates the standard adopted in the current CMP and the project increases traffic demand on that freeway segment by an amount equal to 1 percent or more of the segment capacity or causes the freeway segment V/C ratio to increase by 1 percent. o The LOS standards for freeway study segments on US 101 are LOS F (between Embarcadero Road and Whipple Avenue) and LOS E (between SR 92 and Whipple Avenue). **Alameda County** Significant traffic impacts on freeway segments in Alameda County would occur when the addition of project traffic would cause: • A freeway segment with an LOS E standard to, either individually or cumulatively, operate at LOS F, or • The V/C ratio to increase by 0.03 or more for a freeway segment that would operate at LOS F without the project.	☒	☐	☐

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
h. Cause the following regarding transit service: • Create demand for public transit services above the capacity that is provided or planned for by: o exceeding established peak-hour peak load factor standards, or o exceeding passenger rail platform waiting areas, or • Disrupt existing transit services or facilities,[24] or • Conflict with an existing or planned transit facility, or • Conflict with transit policies adopted by the City of Santa Clara for facilities within the City of Santa Clara portion of the study area.	☒	☐	☐
i. Conflict with City of Santa Clara General Plan (2010) policies that ensure that bicycle and pedestrian facilities are safe and effective for City residents such that the Project or an element of the Project would: • Create a hazardous condition that currently does not exist for bicyclists and pedestrians or otherwise interfere with bicycle and pedestrian accessibility to the site and adjoining areas, or • Conflict with an existing or planned bicycle or pedestrian facility, or • Conflict with policies related to bicycle and pedestrian activity adopted by the City of Santa Clara for facilities within the City of Santa Clara portion of the study area.	☒	☐	☐
j. Cause a significant safety impact to site access and on-site circulation facilities including roadways, driveways, parking garages, sidewalks, crosswalks, bicycle lanes, and bicycle parking areas by not adhering to City of Santa Clara design standards and standard engineering practices, thereby resulting in a hazardous condition for motorists, bicyclists, and/or pedestrians.	☒	☐	☐
k. Conflict with City of Santa Clara General Plan (2010) policies pertaining to maintaining standards for emergency response times such that the Project or an element of the Project would: • Conflict with an existing or planned emergency response facility or route, or • Increase emergency response time beyond the threshold of an average of 3 minutes.	☒	☐	☐
l. Cause a significant parking impact if the Project or any element of the Project would: • Result in parking demand that would exceed the parking supply included in the Project description and either require the construction of additional parking facilities or cause vehicles to travel off-site for parking, thereby causing excessive vehicular circulation.	☒	☐	☐

[24] This includes disruptions caused by proposed driveways on transit streets, impacts on transit stops/shelters, and impacts on transit operations from traffic improvements proposed or resulting from a project.

6.4.1 2016 EIR Findings

The 2016 EIR Transportation/Traffic section describes the existing transportation services and facilities on or near the Project site, including the roadway system, bus and rail service, bicycle facilities, and pedestrian facilities. The 2016 EIR presents the results of the evaluation of the Approved Project's effect on those facilities and services, including impacts related to signalized intersections, unsignalized intersections, freeway segments, transit services, bicycle and pedestrian facilities, emergency access, and parking for multiple scenarios: Existing with Project Conditions, Background with Project Conditions, and Cumulative (2040) with Project Conditions. Where significant impacts were projected to occur in the 2016 EIR, an additional informational scenario was evaluated to identify intersection and freeway segment impacts associated with development of Phases 1, 2, and 3 only (Parcels 4 and 5). This scenario was intended to inform the public of near-term project effects and was used to formulate and properly phase mitigation measures.

The transportation analysis that was prepared for the Approved Project followed the guidelines of the City of Santa Clara (City) and the Santa Clara Valley Transportation Authority (VTA), which acts as the Congestion Management Agency (CMA) for Santa Clara County (County). Potential impacts on intersections, freeway segments, transit, and bicycle and pedestrian facilities were evaluated using the standards, methods, and significance criteria of these agencies. Mitigation measures for identified significant impacts were identified where such measures were available and feasible (see below).

Intersection Analysis

The 2016 EIR found significant and unavoidable transportation impacts related to conflicts with adopted signalized and unsignalized intersection level of service (LOS) criteria. One hundred and twenty-five (125) intersections were studied in the City of Santa Clara and the surrounding jurisdictions of Sunnyvale, San José, Milpitas, and Santa Clara County.

Signalized Intersections

The 2016 EIR found that the Approved Project would result in significant impacts at 51 signalized intersections under Existing with Project and Background with Project Conditions. The 2016 EIR identified Mitigation Measure **TRA-1.1, Vehicle Trip Reduction with Transportation Demand Management (TDM)** to decrease office-generated and residential-generated daily and peak hour project traffic. This mitigation measure specifies details regarding vehicle trip reduction targets; vehicle trip thresholds; TDM measures and strategies for office, residential, and retail uses; monitoring and reporting; and remedial action. In addition, Mitigation Measure **TRA-1.2, Intersection Improvements** was identified to be implemented as part of the Approved Project development. Mitigation Measure **TRA-1.2** specifies intersection improvements, where improvements to increase lane capacity were physically feasible, and off-setting mitigation measures, where there were no feasible physical improvements. These measures were determined to result in either full mitigation, partial mitigation, off-set mitigation (improvements to other modes of travel), or no feasible mitigation to affected intersections. Although improvement measures to intersections located outside of Santa Clara jurisdiction were identified, implementation cannot be guaranteed.

Mitigation Measure **TRA-1.2** details whether the Project Developer would be wholly responsible for discrete improvement measures or partially responsible and thus required to pay a fair-share contribution

as a "percent of total traffic" (see 2016 EIR Table 3-3.20). The 2016 EIR Mitigation Monitoring and Reporting Program (MMRP) includes **Exhibit MMRP-1, Intersection Mitigation Sensitivity Analysis Results: Full Funding Responsibility**, establishing the number of project trips at which each of the required intersection mitigation measures that are wholly the Project Developer's responsibility to implement must be in place. The exhibit also indicates the likely phase of project development where each project trip threshold would be expected to be reached.

The 2016 EIR identified Mitigation Measure **TRA-1.3, Prepare and Implement a Multimodal Improvement Plan (MIP)** to address impacts to Santa Clara County Congestion Management Program (CMP) intersections that are only partially mitigated by TRA-1.1 and TRA-1.2 or where no feasible mitigation was identified. Even with Mitigation Measures **TRA-1.1, TRA-1.2,** and **TRA-1.3**, some intersections would still experience significant impacts. Therefore, the Approved Project impact on signalized intersections was determined to remain significant and unavoidable with mitigation incorporated.

The 2016 EIR identified 20 intersections with significant impacts under the Existing with Project Phases 1, 2, and 3 Conditions and Mitigation Measure **TRA-1a.1, Intersection Improvements for Existing with Project Phases 1, 2, and 3**. TRA-1a-1 serves to identify the specific improvement measures that would be required to mitigate or partially mitigate impacts from this interim scenario and for which the Project Developer would be required to pay fair-share contributions. These impacts would be reduced but not fully mitigated with implementation of TRA-1.1 and TRA-1a.1, resulting in a significant and unavoidable impact.

The 2016 EIR identified impacts on 71 signalized study intersections under Cumulative (2040) Conditions and the Approved Project's contribution would be considerable on all of them. Mitigation Measure **TRA-14.1, Signalized Intersection Improvements**, specifies additional intersection improvements although impacts at some affected intersections would remain significant and unavoidable with implementation of this measure.

Unsignalized Intersections

The affected unsignalized study intersections were located only within the City of Santa Clara and the City of San José. To mitigate impacts to unsignalized intersections, Mitigation Measure **TRA-2.1 Traffic Signal Installation** (intersection 109, see 2016 Draft EIR Table 3.3-3) and **TRA-2.2, Traffic Signal Installation** (intersection 114, see 2016 Draft EIR Table 3.3-3) would be implemented so that traffic signals are installed once traffic volumes meet the warrant requirements (which was projected to occur in later development phases). However, with implementation of Mitigation Measures **TRA-1.1, TRA-2.1**, and **TRA-2.2**, one unsignalized intersection may still operate at an unacceptable level under Background with Project conditions, and the impact would remain significant and unavoidable (intersection 109). Under the Existing with Project Phases 1, 2, and 3, no unsignalized study intersections would have a significant impact. Under Cumulative (2040) Conditions, unsignalized study intersections would be fully mitigated with implementation of Mitigation Measures **TRA-1.1** and **TRA-2.2**.

On-Site Intersections

An on-site intersection analysis was conducted to assess operations of the on-site intersections and queuing into the parking facilities and local streets. The analysis was conducted for intersections on

Parcels 4 and 5 and concluded that the design guidelines from the Master Community Plan (MCP) would ensure less-than-significant impacts. Mitigation Measure **TRA-5.1, Transportation Design Review**, was identified to reduce impacts to on-site intersections on Parcels 1, 2, and 3.

Freeway Segments

The 2016 EIR study area included freeway segments within Santa Clara County, San Mateo County, and Alameda County and found significant and unavoidable transportation impacts related to conflicts with adopted freeway level of service criteria. Complete mitigation of freeway impacts is considered beyond the scope of an individual development project because, due to jurisdiction and funding constraints, individual projects and Cities are unable to approve and acquire right-of-way for freeway widening. Nonetheless, 2016 EIR Mitigation Measure **TRA-3.1: Freeway Segment Improvements** specifies that the Project Developer will make a voluntary contribution toward the Valley Transportation Plan (VTP) 2040 Express Lane Projects (VTP 2040 project numbers H2, H3, H4, H5, H6, H7, and H15) and Countywide Freeway Traffic Operation System and Ramp Metering Improvements (VTP 2040 project number S83). These VTP 2040 projects (H2, H3, H4, H5, H6, H7, H15, and S83), once fully funded and constructed, will enhance travel choices for Project travelers and make more efficient use of the transportation network.

In addition to the complete project, the 2016 EIR analyzed project impacts to affected freeway segments under existing-plus-Project conditions with traffic generated by Phases 1, 2, and 3 only (Parcels 4 and 5). Even with implementation of Mitigation Measure **TRA-3.1**, the impacts to freeway segments would remain significant and unavoidable under this interim scenario and under full buildout of the Approved Project.

Other Modes of Transportation, Emergency Access, and Parking

Pedestrian Facilities

The 2016 EIR found a significant and unavoidable impact related to the Approved Project generating a substantial number of pedestrians travelling to transit stops along routes where sidewalk gaps exist, thus creating a hazardous condition for pedestrians. Mitigation Measure **TRA-7.1: Sidewalk Gap Closure on Tasman Drive on Lafayette Street overcrossing extend east to Calle Del Sol** was identified as a Project Developer responsibility. With implementation of Mitigation Measure **TRA-7.1**, this impact was found to be less-than-significant.

Bicycle Facilities

The 2016 EIR considered project-generated bicycle travel along with existing bicycle facilities and bicycle facilities proposed by the Approved Project and others (see 2016 Draft EIR Figure 3.3-28) and found a less-than-significant impact.

Transit Capacity and Operations

The 2016 EIR found less-than-significant impacts related to transit vehicle and platform capacity. The 2016 EIR found a significant and unavoidable impact on transit operations because the Approved Project would generate considerable amounts of traffic congestion at intersections on bus and light-rail routes in the study area. No feasible improvements were identified to address this impact.

Emergency Access

The 2016 EIR determined the relocation of Fire Station 10 would result in less-than-significant impacts related to emergency access.

Parking

The 2016 EIR determined that the Approved Project would provide sufficient parking to meet the anticipated peak parking demand and the Approved Project would result in a less-than-significant level related to parking supply.

Construction

The 2016 EIR evaluated the Project's construction activities for impacts to intersections; parking; and bicycle, pedestrian, and transit circulation. The 2016 EIR identified that construction traffic would result in short-term increases in traffic volumes that would cause significant impacts on intersection and freeway segment levels of service and temporary road closures requiring detours for vehicles accessing the Great America ACE/Capitol Corridor Station. The impacts were found to be significant and unavoidable even with implementation of Mitigation Measure **TRA-18.1, Construction Management**, requiring the preparation of a construction management plan.

Game Day

The 2016 EIR evaluated Approved Project traffic impacts on game-day (pre-game and post-game) conditions. The 2016 EIR identified Mitigation Measure **TRA-19.1: Modified City's Traffic Management and Operations Plan (TMOP) and Prepare a Project-Specific Traffic and Parking Management Plan** requiring the Project Developer to coordinate with City Planning and Public Works to direct stadium traffic to the new parking locations on the site and develop a separate traffic and parking management plan. The impact was determined to remain significant and unavoidable even with implementation of this measure.

6.4.2 Project Analysis

Introduction and Approach to Analysis

A *2024 Related Santa Clara Traffic Analysis Memo* (Traffic Report) was prepared by Arup for the Project Applicant and peer reviewed by Hexagon for the City of Santa Clara (see **Appendix B**). The Traffic Report compared traffic and transportation impacts for the modified land use program, defined as Scheme C, to the impacts identified in the 2016 EIR traffic and transportation analysis. This section includes an analysis based on the findings of the Traffic Report.

The Approved Project analyzed in the 2016 EIR included two land use schemes (Scheme A and Scheme B) to capture the range of possible land uses that could be developed. The 2016 EIR traffic analysis only evaluated Scheme B as the land use scenario with the expected higher trip generation due to the focus on office development. Therefore, the Traffic Report compares Scheme C with Scheme B, herein referred to as the Approved Project.

The Traffic Report considered updated background and cumulative traffic assumptions and evaluated Background-plus-Project and Cumulative-plus-Project conditions. The report relied on existing and

available information, and cumulative traffic volumes based on the latest available County of Santa Clara Travel Demand Model outputs.

Proposed Network Changes and Truck Circulation

As shown in Figure 5, above, and in Figure 1.2 in the Traffic Report, Scheme C would include three new intersections with Lafayette Street as opposed to two under the Approved Project. Where the Approved Project would connect to the intersection at Great America Way and Lafayette Street, Scheme C would connect to Lafayette Street south of the retention basin parcel (intersection #86 in Appendix B). Where the Approved Project would include an intersection of City Place Parkway and Lafayette Street north of Parcel 4, Scheme C would include a bridge over Lafayette Street to a Jug Handle into the northeast parcel with an intersection at Lafayette Street north of the bridge (intersection #87 in Appendix B). Scheme C would include a third intersection with Lafayette Street south of the northeast parcel project buildings (intersection #88 in Appendix B). Scheme C would not include the Link Mill Boulevard Connection to the Lick Mill Boulevard Extension on the southeast corner of the northeast parcels.

The Traffic Report describes truck access limitations and truck movement restrictions planned as part of Scheme C's internal site road network. Truck ingress and egress for the northeast parcels would be limited to an internal road north of the proposed buildings that would connect to Lafayette Street just south of Great America Way (see Figure 6 in Section 4 above). Trucks would be prohibited from using the internal road south of the proposed buildings. With these restrictions in place, the Traffic Report estimated Project truck volumes for the AM and PM peak hours and found the greatest truck volumes of up to 20 trucks per hour would occur during the PM peak hour on Lafayette and Great America Way north of the Project site. Project truck volumes of up to 11 trucks per hour would occur during the PM peak hour along Great America Parkway north and west of the Project site. These restrictions inform the estimated truck distribution and thus inform the LOS analysis summarized below. Final intersection layout and design would occur as a part of road and civil engineering studies required for site-specific DAP approvals and DAP traffic analyses.

Trip Generation Comparison

For consistency, and to present a conservative analysis, the Traffic Report assessed Scheme C trip generation estimates using the trip rates adopted for the 2016 EIR supplemented with more recent rates for the proposed industrial use (passenger vehicles and trucks) (see Appendix B for additional detail on study approach). The Traffic Report concluded that the increase in density in City Center combined with a modification of the land use program under Scheme C would result in small increases in AM and PM peak hour trips for City Center (Parcels 4 and 5) and larger decreases in AM and PM peak hour trips for the northeast parcels. Overall, Scheme C would result in fewer AM and PM peak hour trips (inbound and outbound) and a reduction in daily trip generation compared with the Approved Project (see **Tables 6.4-1**, **6.4-2**, and **6.4-3** below).

TABLE 6.4-1
TRIP GENERATION TOTAL AM PEAK HOUR

	City Center			Northeast Parcel			City Center + Northeast Parcel		
AM Peak	AM Inbound	AM Outbound	Total AM	AM Inbound	AM Outbound	Total AM	AM Inbound	AM Outbound	Total AM
2016 EIR	4740	1530	6270	3270	480	3750	8010	2010	10020
Scheme C	5316	1599	6915	815	255	1070	6131	1854	7985
Delta	+12%	+5%	+10%	-75%	-47%	-71%	-23%	-8%	-20%

TABLE 6.4-2
TRIP GENERATION TOTAL PM PEAK HOUR

	City Center			Northeast Parcel			City Center + Northeast Parcel		
PM Peak	PM Inbound	PM Outbound	Total PM	PM Inbound	PM Outbound	Total PM	PM Inbound	PM Outbound	Total PM
2016 EIR	3040	4970	8010	1100	3200	4300	4140	8170	12310
Scheme C	2760	5465	8225	370	815	1185	3130	6280	9410
Delta	-9%	+10%	+3%	-66%	-75%	-72%	-24%	-23%	-24%

TABLE 6.4-3
TRIP GENERATION TOTAL DAILY PEAK HOUR

	City Center			Northeast Parcel			City Center + Northeast Parcel		
PM Peak	Daily Inbound	Daily Outbound	Total Daily	Daily Inbound	Daily Outbound	Total Daily	Daily Inbound	Daily Outbound	Total Daily
2016 EIR	48595	48595	97190	21770	21770	43540	70365	70365	140730
Scheme C	45198	45198	90396	3920	3920	7840	49118	49118	98236
Delta	-7%	-7%	-7%	-82%	-82%	-82%	-30%	-30%	-30%

Intersection Analysis

Signalized and Unsignalized Intersections

As described above, Scheme C's proposed land use, development density, and on-site road network changes would result in changes to anticipated passenger vehicle trip numbers and distribution as well as the introduction of new truck trips associated with the proposed light industrial land use.

Scheme C could result in more vehicle trips at certain intersections providing access to City Center as well as intersections in proximity to the Project site. However, although the 2016 EIR analyzed 125 intersections in five jurisdictions, the traffic changes associated with a modification of the land use program under Scheme C are anticipated to affect a significantly smaller area due to an overall reduction in vehicle trips compared with the Approved Project trips. Therefore, a reduced study area that includes 26 intersections within and surrounding the Project site was identified for analysis in the Traffic Report (see Appendix B Section 2.2 for a discussion of the reduced study area, see Appendix B Table 2.1 and

Figure 2.2 for a list and depiction of selected intersections; see 2016 Draft EIR Table 3.3-3 for a full list of study intersections).

The Traffic Report shows that Scheme C would result in an increase in traffic along Great America Parkway south of the Project site and a decrease along Lafayette Street south of the Project site compared with trip distribution analyzed in the 2016 EIR. This change reflects the Scheme C shift of density and hence trips from the northeast parcels to the City Center as well as more recent developments southwest of the City Center that were completed after the 2016 EIR.

Under Background-plus-Project conditions, Scheme C would result in an LOS of "E" at 1 of the 26 intersections within the reduced study area. None of the intersections would result in LOS "F". This represents a reduced impact compared with the Approved Project (Scheme B), which would result in 10 intersections operating at LOS "E" or LOS "F" (2 of which are unsignalized intersections) within the reduced study area (see Appendix B Table 6.1). Under Cumulative-plus-Project conditions, Scheme C would result in 9 intersections operating at LOS "E" or LOS "F" within the reduced study area (1 of which is an unsignalized intersection). This also represents a reduced impact compared with the Approved Project, which would result in 11 intersections operating at LOS "E" or LOS "F" (two of which are unsignalized intersections) within the reduced study area.

As described in detail in the Traffic Report, the increased land use density in City Center, change of land use, and modifications to the road network would result in more vehicle trips at certain intersections and fewer trips at other intersections compared with the Approved Project. However, by reducing the overall number of intersections operating at LOS of "E" or "F", Scheme C would lessen the severity of the previously identified significant impact to intersection performance under Background-plus-Project and Cumulative-plus-Project conditions. Therefore, with a reduced trip generation and reduced contribution to cumulative conditions, Scheme C would not result in a new or more severe significant impact to signalized and unsignalized intersections compared to those disclosed in the 2016 EIR.

The 2016 EIR identified Mitigation Measures **TRA-1.1, Vehicle Trip Reduction with (TDM)**; **TRA-1a.1, Intersection Improvements for Existing with Project Phases 1, 2, and 3**; **TRA-1.2, Intersection Improvements**; **TRA-1.3, Prepare and Implement a Multimodal Improvement Plan (MIP)**; **TRA-2.1, Traffic Signal Installation**; **TRA-2.2, Traffic Signal Installation**; **TRA-5.1, Transportation Design Review**; **TRA-14.1, Signalized Intersection Improvements**; and **TRA-16.1, Intersection Improvements**; which would apply to Scheme C. Consistent with the conclusions in the 2016 EIR, the Scheme C impact to signalized and unsignalized intersections would be significant and unavoidable.

Freeway Segments

The 2016 EIR analyzed freeway segments to determine their LOS under Existing-plus-Project and Cumulative-plus-Project conditions. As noted above, Scheme C would generate fewer vehicle trips and thus reduce the project contribution to freeway segments compared with the Approved Project (see Appendix B Table 8.1). Therefore, the Existing-plus-Scheme C condition is not anticipated to result in new or more severe significant impacts on freeway segments than those disclosed in the 2016 EIR.

Although the 2016 EIR analyzed Cumulative-plus-Project conditions at 236 freeway segments, the traffic changes associated with Scheme C are anticipated to affect fewer freeway segments due to an overall

reduction in vehicle trips compared with the Approved Project trips. Therefore, like the approach described above for LOS analysis, a reduced study area was identified for analysis. Freeway segments selected for Scheme C analysis were limited to those on SR 237 and US 101 that were not identified as having a significant impact in the 2016 EIR (see Appendix B Section 8.2 for a discussion of the reduced study area, see Appendix B Table 8.1 for a list of selected freeway segments). Despite the reduction in trip generation, Scheme C would still contribute to a significant cumulative impact on freeway segments. However, as shown in Table 8.1 of the Traffic Report, Scheme C would result in a reduced contribution to the freeway segments selected for analysis when compared with the estimated contribution from the Approved Project.

By updating background data, the Traffic Report identified several freeway segments that deteriorated compared with 2016 existing conditions and one freeway segment that now exceeds the established LOS standard without the Project that was not identified in the 2016 EIR (see Appendix B Table 8.1).[25] Although Scheme C's contribution to this segment would be considerable, the Scheme C project trips along this segment would be reduced relative to the Approved Project trips. As described in the Traffic Report, with a reduced trip generation and reduced contribution to cumulative conditions, the performance of freeway segments previously identified with a significant impact in the 2016 EIR would not substantially change under Scheme C. Considering all freeway segments analyzed, Scheme C would not result in a new or more severe significant impact to overall freeway conditions compared to the impact disclosed in the 2016 EIR.

The 2016 EIR identified Mitigation Measures **TRA-1.1, Vehicle Trip Reduction with (TDM)**; **TRA-3.1, Freeway Segment Improvements**; and **TRA-14.1, Signalized Intersection Improvements**; which would apply to Scheme C. Consistent with the conclusions in the 2016 EIR, the Scheme C impact to freeway segments would be significant and unavoidable.

Other Modes of Transportation

Pedestrian Facilities

As with the Approved Project, Scheme C would be subject to all General Plan policies adopted to protect pedestrian access and safety (see 2016 EIR Table 3.3-2) and to Mitigation Measure **TRA-7.1, Sidewalk Gap Closure on Tasman Drive on the Lafayette Street overcrossing extending east to Calle Del Sol**, listed above. Sidewalks are proposed along all internal streets in Parcels 1 and 2 to provide a safe pedestrian environment by segregating walking areas from streets and truck movements on these streets. As noted above, the 2016 EIR found a significant and unavoidable impact related to the Approved Project generating a substantial number of pedestrians travelling to transit stops along routes where sidewalk gaps exist, thus creating a hazardous condition for pedestrians. As noted below, the Traffic Report indicated that, compared with the Approved Project, Scheme C would result in reduced transit ridership and thus a reduced number of pedestrians travelling to transit stops along routes where sidewalk gaps exist (see Appendix B Table 8.2). Therefore, Scheme C would result in no new or more severe significant impact related to hazardous conditions for pedestrians and would result in the same significant and unavoidable impact.

[25] The adjusted No Project Background conditions are based on traffic counts collected in 2018/19 which are lower than the Background No Project conditions forecast and adopted in the 2016 EIR. See Appendix B for an explanation.

Bicycle Facilities

Scheme C would not alter the Approved Project's proposed bicycle infrastructure improvements for the southwest parcels or the surrounding area. Although the proposed modifications to the internal road network for the northeast parcels would require a revision to the planned bicycle infrastructure, Scheme C would not alter the MCP design guidelines related to the provision of bike facilities, which include bike paths, bike lanes, and bike routes. Final infrastructure layout and design for bicycle facilities would occur as a part of road and civil engineering studies required for site-specific DAP approvals, and will be reviewed for consistency with the MCP design guidelines at that time. Therefore, consistent with the conclusions in the 2016 EIR, the Scheme C impact with respect to bicycle facilities would be less-than-significant.

Transit Capacity and Operations

As demonstrated in the Traffic Report, Scheme C would result in reduced transit ridership compared with the Approved Project (see Appendix B Table 8.2). In addition, as noted above, Scheme C would result in an overall reduction in vehicle trips compared with the Approved Project trips, and a reduced severity of the previously identified significant impact to intersection performance under Background-plus-Project and Cumulative-plus-Project conditions. As such, Scheme C would not result in new or more severe significant impact with respect to transit capacity or operations than impacts disclosed in the 2016 EIR.

Emergency Access

Scheme C would not revise any of the fire station relocation options analyzed in the 2016 EIR. Therefore, potential impacts of Scheme C relative to the Approved Project regarding emergency access would be equal to the impacts disclosed in the 2016 EIR.

Parking

Scheme C's proposed land use, development density, and on-site road network changes would result in changes to peak parking demand. However, final bicycle and vehicle parking quantity and location are determined by MCP requirements and would be confirmed during site-specific DAP approval. Therefore, consistent with the conclusions in the 2016 EIR, the Scheme C impact on parking would be less-than-significant.

Construction

Although Scheme C would introduce new light industrial uses, no change is proposed to the overall total gross square footage being developed across the Project site. The changes to land use under Scheme C would not change the construction activities or substantially alter the construction timeline. Therefore, Scheme C would result in no new or more severe significant impact with respect to construction-related traffic. As with the Approved Project, Scheme C would be subject to Mitigation Measure **TRA-18.1, Construction Management**, and would result in the same significant and unavoidable impact.

Game Day

The 2016 EIR evaluated the Approved Project traffic during the events with the most frequency and highest attendance, which are the Sunday football games. According to the Traffic Report, Scheme C would result in reduced Sunday daily and total peak hour trips compared with the Approved Project. Therefore, Scheme C would result in no new or more severe significant impact with respect to game-day traffic congestion. As with the Approved Project, Scheme C would be subject to Mitigation Measure

TRA-19.1, Modified Traffic Management and Operations Plan (TMOP) and Project Traffic and Parking Management Plan and would result in the same significant and unavoidable impact.

6.4.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of the Scheme C development would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR, nor would it result in new significant impacts related to transportation/traffic that were not identified in the 2016 EIR. Mitigation Measures **TRA-1.1, Vehicle Trip Reduction with (TDM)**; **TRA-1a.1, Intersection Improvements for Existing with Project Phases 1, 2, and 3**; **TRA-1.2, Intersection Improvements**; **TRA-1.3, Prepare and Implement a Multimodal Improvement Plan (MIP)**; **TRA-2.1, Traffic Signal Installation**; **TRA-2.2, Traffic Signal Installation**; **TRA-3.1, Freeway Segment Improvements**; **TRA-5.1, Transportation Design Review**; **TRA-7.1, Sidewalk Gap Closure on Tasman Drive on the Lafayette Street overcrossing extending east to Calle Del Sol**; **TRA-14.1, Signalized Intersection Improvements**; **TRA-16.1, Intersection Improvements**; **TRA-18.1, Construction Management**; and **TRA-19.1, Modified Traffic Management and Operations Plan (TMOP) and Project Traffic and Parking Management Plan** (see Appendix A) would be applicable to and would be implemented by Scheme C. These mitigation measures would ensure that impacts related to transportation/traffic would be equal to, or less severe than, those previously identified and disclosed in the 2016 EIR.

6.5 Air Quality

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. Conflict with or obstruct implementation of the applicable air quality plan. For the purposes of this analysis, "conflict with or obstruct implementation" is defined as circumstances in which the project would worsen existing air quality violations or exceed the growth assumptions utilized by the City of Santa Clara and Association of Bay Area Governments (ABAG);	☒	☐	☐
b. Violate any air quality standard or substantially contribute to an existing or projected air quality violation. For the purposes of this analysis, "violate any air quality standard or substantially contribute to an existing or projected air quality violation" is defined as circumstances in which construction or operational emissions exceed the pertinent BAAQMD thresholds, as described under *Local Air District Threshold*s [see the 2016 EIR Section 3.4];	☒	☐	☐
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is a nonattainment area for an applicable federal or State ambient air quality standard. For the purposes of this analysis, a "cumulatively considerable net increase" is defined as circumstances in which total direct emissions exceed BAAQMD thresholds identified in Table 3.4-5 [see the 2016 EIR Section 3.4]. The emissions thresholds presented in Table 3.4-5 represent the average daily emissions that a project may generate before contributing to a cumulative impact on regional air quality. Therefore, exceedances of the project-level thresholds, as identified in Table 3.4-5, would be cumulatively considerable [see the 2016 EIR Section 3.4];	☒	☐	☐
d. Expose sensitive receptors to substantial pollutant concentrations. For the purpose of this analysis, schools, daycare facilities, places of assembly, medical facilities, parks, and residences are considered sensitive receptor locations. A "substantial pollutant concentration" is defined as levels in excess of applicable BAAQMD thresholds, as described below under Local Air District Thresholds [see the 2016 EIR Section 3.4; or	☒	☐	☐
e. Create objectionable odors that would affect a substantial number of people. For the purpose of this analysis, an odor-producing facility, as defined by BAAQMD,[26] creates an "objectionable odor" if it receives five complaints per year averaged over 3 years.	☒	☐	☐

6.5.1 2016 EIR Findings

The 2016 EIR determined that construction of the Approved Project would generate criteria pollutant emissions and toxic air contaminants. Construction-related criteria pollutant emissions were found to exceed BAAQMD's annual average daily threshold for oxides of nitrogen (NOx) during the first year of Project construction and was, therefore, identified as a significant impact, as was emissions of fugitive dust. Mitigation Measures **AQ-2.1** and **AQ-2.2** were identified to reduce emissions through the use of

[26] Bay Area Air Quality Management District. 2011. California Environmental Quality Act Air Quality Guidelines. May. San Francisco, CA.

cleaner off-road equipment and cleaner on-road trucks, respectively. However, with these mitigation measures, emissions of NOx from construction were still found to be significant. Mitigation Measure **AQ-2.4** was identified to require the Project Developer to pay an off-site mitigation fee for construction NOx emissions in excess of BAAQMD thresholds to reduce the construction-related impact of criteria air pollutant emissions to a less-than-significant level. Mitigation Measure **AQ-2.3** was identified to address fugitive dust emissions sufficiently to reduce the impact from fugitive dust to a less than significant level.

The 2016 EIR found that Approved Project operations would result in regional criteria pollutant emissions in excess of BAAQMD thresholds, a significant impact. Specifically, emissions of reactive organic gases (ROG), NOx, particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$) under both Schemes A and B would exceed BAAQMD's mass emissions thresholds. Mitigation Measure **GHG-1.2** was identified to exceed Title 24 energy efficiency requirements by 15 percent and, thus, reduce emissions by reducing natural gas demand. Mitigation Measure **TRA-1.1** was identified to implement Transportation Demand Management (TDM) strategies to reduce vehicle trips and their associated mobile-source emissions; however, implementation of these mitigation measures would not reduce the operational criteria air pollutant impact to a less-than-significant level and this impact was identified as significant and unavoidable. Further, because the overall project would involve concurrent construction and operational activities, the 2016 EIR considered the impacts of the combined Approved Project construction and operation, and it too would result in regional criteria pollution emissions in excess of BAAQMD thresholds. Even after implementation of the mitigation measures described above, these impacts were determined to be significant and unavoidable.

The 2016 EIR determined that the Approved Project would contribute to unplanned regional growth. Further, as noted above, the Approved Project's long-term operational emissions would exceed BAAQMD's thresholds of significance even with mitigation incorporated. Accordingly, the 2016 EIR determined that the Approved Project would conflict with implementation of the applicable air quality plan and the impact would be significant and unavoidable.

The 2016 EIR determined that construction of the Approved Project would generate $PM_{2.5}$ and diesel particulate matter (DPM), resulting in the exposure of nearby existing sensitive receptors (e.g., residences, schools, parks) to increased $PM_{2.5}$ concentrations and health risks associated with DPM. The results of a health risk assessment conducted for the 2016 EIR concluded that Project construction would result in a significant (greater than 10 in one million) increase in cancer risk in excess of BAAQMD thresholds at sensitive receptors, which were the occupants of residential uses constructed during Phase 1 within Parcel 5. The analysis found that with the afore mentioned Mitigation Measures **AQ-2.1, AQ-2.2, AQ-2.3** and an additional Mitigation Measure **AQ-6.1** to utilize clean diesel-powered equipment, the significant health risk impact would be reduced to a less than significant level.

The 2016 EIR determined that the TAC emissions from the Approved Project operational vehicle traffic, truck traffic, and emergency generator use would be below the BAAQMD thresholds and would result in a less than significant impact with implementation of Mitigation Measure **AQ-7.1**. However, the 2016 EIR determined that the Approved Project's TAC emissions could contribute to a cumulative health risk to existing off-site receptors and the contribution was identified as cumulatively considerable and unavoidable with mitigation.

Potential Approved Project impacts related to objectionable odors were found to be less-than-significant with implementation of Mitigation Measure **HAZ-2.1**, which includes on-site odor monitoring during excavation. Impacts related to carbon monoxide hot spots and asbestos were found to be less-than-significant.

6.5.2 Project Analysis

The discussion of Scheme C's air quality analysis is informed by the *CEQA Air Quality and Greenhouse Gas Analysis for the Modification of the Related Santa Clara Project*, prepared by Ramboll (Appendix C).

Air Quality Plan

The 2016 EIR evaluates the Approved Project relative to the 2010 Clean Air Plan. Although BAAQMD has since adopted the 2017 Clean Air Plan, this analysis compares the potential impacts of Scheme C with the Approved Project and relies on the thresholds in place for the 2016 EIR to determine whether, if the Approved Project had included Scheme C, additional or more severe significant impacts would have been identified. Scheme C's operational and construction-related activities including demolition, infrastructure improvements on- and off-site, general building locations, and building foundations would be substantially similar to what was anticipated for the Approved Project and analyzed in the 2016 EIR. The analysis of criteria pollutant emissions, discussed below, indicates that Scheme C operational emissions of criteria pollutants would be less than those estimated in the 2016 EIR. However, like the Approved Project, Scheme C would exceed BAAQMD significance thresholds. Therefore, the potential impacts for Scheme C would remain consistent with the findings in the 2016 EIR and would not result in a new significant impact or a more severe significant impact than was disclosed in the 2016 EIR with respect to consistency with the Clean Air Plan.

Criteria Air Pollutants

Construction

Scheme C proposes to construct the same total building square footage over the same physical footprint. Therefore, the construction footprints between the Approved Project and Scheme C would not change substantially. While the land uses within each parcel may change, Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR, and would not result in intensified construction emissions over a shorter period of time. Additionally, Scheme C construction emissions from equipment and trucks are predicted to be lower than estimated in the 2016 EIR due to more stringent emissions standards and fleet turnover with time. Scheme C would still be subject to the following mitigation measures to ensure a less than significant construction criteria air pollutant emissions impact: **AQ-2.1, Utilize Clean Diesel-Powered Equipment during Construction to Control Construction-Related Reactive Organic Gas (ROG) and Oxides of Nitrogen (NOx) Emissions**; **AQ-2.2, Use Modern Fleet for On-Road Material Delivery and Haul Trucks during Construction**; **AQ-2.3, Implement Bay Area Air Quality Management District (BAAQMD) Additional Construction Mitigation Measures to Reduce Construction-Related Dust and Exhaust Emissions**; **AQ-2.4, Offset NOx Emissions Generated during Construction that Are above BAAQMD NOx Average Daily Emission Threshold.** Therefore, construction emissions would not result in a new or more severe impact with respect to construction-related emissions of criteria air pollutants.

Operations

The operational emissions from Scheme C were estimated to capture the effects of the proposed changes in land use. Due to differences in land use types, emissions from Parcels 1 and 2 were evaluated separately from the City Center Parcels. The modifications and emissions methodologies of Scheme C are detailed in the analysis in Appendix C. **Table 6.5-1** presents the comparison between the findings of the 2016 EIR and Scheme C. Operational criteria air pollutant emissions of Scheme C would result in a decrease of emissions compared with the Approved Project, ranging from a 7 percent to 34 percent decrease, depending on the pollutant. However, resulting emissions would continue to be above BAAQMD thresholds and would therefore be subject to the mitigation measure identified in the 2016 EIR in this context: **AQ-2.4, Offset NOx Emissions Generated during Construction that Are above BAAQMD NOx Average Daily Emission Threshold**. In summary, although operational emissions would be reduced compared to the Approved Project, Scheme C would result in the same significant and unavoidable impact identified in the 2016 EIR for the Approved Project. Therefore, Scheme C would not cause a new significant impact or a more severe significant impact than was disclosed in the 2016 EIR with respect to operational criteria air pollutant emissions.

TABLE 6.5-1
COMPARISON OF APPROVED PROJECT AND SCHEME C OPERATIONAL CRITERIA AIR POLLUTANTS

Categories	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
	(lbs/day)				
Approved Project (Scheme B) (Table 3.4-9)					
Mobile Sources	299	462	2,743	625	173
Area Sources	229	1	17	1	1
Energy Sources	5	48	40	4	4
Total	**534**	**511**	**2,801**	**629**	**177**
BAAQMD Thresholds	**54**	**54**	**CAAQS[a]**	**82**	**82**
Scheme C (with Manufacturing)					
Mobile Sources – Delivery Trucks (Northeast)	1.4	57	7.8	4.8	2.1
Mobile Sources – Passenger Vehicles (Northeast)	14	9.1	140	2.8	0.9
Mobile Sources (City Center + Northwest)	251	191	1,978	520	134
Hearths	1	17	7.1	1.3	1.3
Consumer Products	179	0	0	0	0
Architectural Coatings	25	0	0	0	0
Energy Sources (NE Parcel)	1	19	16	1.4	1.4
Energy Sources (City Center + Northwest)	2.4	43	31	3.3	3.3
Total	**476**	**335**	**2,179**	**534**	**143**
BAAQMD Thresholds	**65**	**54**	**CAAQS[a]**	**82**	**82**
Percentage Changes	**-11%**	**-34%**	**-22%**	**-15%**	**-19%**
Scheme C (with Warehouse)					
Mobile Sources – Delivery Trucks (Northeast)	34	105	14	6.7	3.1
Mobile Sources – Passenger Vehicles (Northeast)	5.1	3.3	50	1.0	0.3
Mobile Sources (City Center + Northwest)	251	191	1,978	520	134

Categories	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
	(lbs/day)				
Hearths	1.0	17	7.1	1.3	1.3
Consumer Products	179	0	0	0	0
Architectural Coatings	25	0	0	0	0
Energy Sources (NE Parcel)	0.08	1.57	1.32	0.12	0.12
Energy Sources (City Center + Northwest)	2.4	43	31	3.3	3.3
Total	**498**	**360**	**2,081**	**533**	**142**
BAAQMD Thresholds	**54**	**54**	**CAAQS[a]**	**82**	**82**
Percentage Changes	**-7%**	**-30%**	**-26%**	**-15%**	**-20%**

NOTES:

a. CAAQS = California ambient air quality standards; Refer to "Carbon Monoxide Hot Spots", below, for significance determination.

SOURCE: Ramboll 2024.

Cumulative

Emissions during construction and operation of Scheme C would cause or contribute to a cumulatively significant impact air quality in the surrounding region. Construction criteria air pollutant emissions from Scheme C would not exceed those from the Approved Project for the reasons discussed above. Similarly, operational criteria air pollutant emissions for Scheme C and their comparison against the Approved Project are presented in Table 6.5-1, below, and have been determined to be consistent with the conclusions reached in the 2016 EIR. Therefore, the combination of construction and operation emissions for Scheme C would be similar to or less than the combination of construction and operation emissions for the Approved Project. Project emissions would exceed the BAAQMD thresholds of significance, which were developed to represent a cumulatively considerable contribution to significant cumulative air quality impacts throughout the air basin. As with the Approved Project, Scheme C would be subject to the mitigation measures listed above and would result in the same significant and unavoidable impact.

Localized Impacts to Sensitive Receptors

Carbon Monoxide Hot Spots

The 2016 EIR evaluated exposure of sensitive receptors to carbon monoxide hot spots using screening methods and comparison of traffic volumes through major intersections with screening thresholds. Scheme C's updated traffic volumes would not result in any intersections exceeding the screening thresholds used in the 2016 EIR.[27] Therefore, impacts of Scheme C would remain consistent with the finding of less-than-significant impacts in the 2016 EIR.

Construction Toxic Air Contaminants

The 2016 EIR evaluated exposure of on-site and off-site sensitive receptors to toxic air contaminants (TACs), primarily diesel particulate matter (DPM), and localized concentrations of fine particulate matter

[27] See the *2024 Related Santa Clara Traffic Analysis Memo* prepared by Arup for the Project Applicant and peer reviewed by Hexagon for the City of Santa Clara. Per the *2024 Related Santa Clara Traffic Analysis Memo*, cumulative traffic volumes are based on the latest available County of Santa Clara Travel Demand Model outputs considering current data for development projects and adjusted for 2018/19 traffic counts. See also Appendix B.

($PM_{2.5}$) during construction. The 2016 EIR determined that the construction-related health risks were less than significant with mitigation incorporated.

Scheme C would construct the same total building square footage over the same physical footprint. However, Scheme C would increase the density, resulting in more concentrated vertical construction in the City Center parcels, thus increasing construction activity and potential health impacts. The air quality analysis provided in Appendix C conservatively assumes that the density decrease in Parcels 1 and 2 would have no effect on the construction activity and health impacts, even though the construction activity and health impacts would likely be expected to decrease at receptors near these construction areas.

To estimate the change in health risk associated with the increased density of the City Center parcels under Scheme C, the 2016 EIR's mitigated Project construction health risk results were scaled based on the building square footage increase, from 5.13 million square feet to 7.56 million square feet (See Appendix C for more details). **Table 6.5-2** shows the scaled mitigated $PM_{2.5}$ concentration, Chronic Hazard Index (HI), and Cancer risk at the on-site and off-site maximally exposed individual receptor (MEIR) under Scheme C and compares the results to the risks identified in the 2016 EIR. The Scheme C construction health risk impacts remain below BAAQMD thresholds with implementation of Mitigation Measure **AQ-6.1, Assess Construction Diesel Particulate Matter (DPM) Emissions Potential Prior to Construction, Utilize Clean Diesel-Powered Equipment, Filtration Systems, and/or other Measures as Necessary to Reduce Cancer Risks Associated with DPM during Construction**. This mitigation measure requires the Project Developer to, in lieu of an updated HRA, use updated construction equipment activity data; submit this data to the City for review; and ensure that all off-road diesel-powered equipment used during construction after occupancy of on-site residences or on-site daycare centers is equipped with EPA Tier 4 or cleaner engines or else to install heating, cooling, or ventilation systems that serve on-site residential or daycare centers that are rated with a Minimum Efficiency Reporting Value (MERV) of 13. Therefore, the impact significance conclusion for construction health risk from Scheme C would remain consistent with the determination reached in the 2016 EIR. Scheme C would result in no new significant impact and no more severe a significant impact than was disclosed in the 2016 EIR with respect to construction-related health risk.

TABLE 6.5-2
SCALED PROJECT-LEVEL CONSTRUCTION HEALTH RISK

	EIR Mitigated[a]			Scheme C Scaled Mitigated		
Phase	**Non-Cancer HI**	**Cancer Risk (per million)**	**Annual $PM_{2.5}$ concentration (µg/m3)**	**Non-Cancer HI**	**Cancer Risk (per million)**	**Annual $PM_{2.5}$ concentration (µg/m3)**
On-Site MEIR	0.01	1.5	0.01	0.015	2.2	0.015
Off-Site MEIR	0.01	0.8	0.01	0.015	1.2	0.015
BAAQMD Thresholds	**1**	**10**	**0.3**	**1**	**10**	**0.3**

NOTES:

a. Where the PM2.5 concentrations and Chronic HI in the 2016 EIR was shown as "<0.01", the risk was conservatively assumed to be 0.01 for the scaling calculations.

SOURCE: Ramboll 2024.

Operational Toxic Air Contaminants

The 2016 EIR evaluated exposure of sensitive receptors to toxic air contaminants, primarily DPM, and speciated total organic gases (TOG), as well as localized concentrations of $PM_{2.5}$, during operations to nearby existing or new sensitive receptors. The 2016 EIR determined operational TACs would result in a less than significant impact with mitigation incorporated. **Table 6.5-3, Table 6.5-4, and Table 6.5-5** summarize Scheme C's maximum project operational excess lifetime cancer risk, chronic hazard indices, and $PM_{2.5}$ concentrations respectively. While the health risks to some off-site and on-site receptors

would increase compared to that Approved Project, the Scheme C operational health risk impacts remain below BAAQMD thresholds with implementation of Mitigation Measure **AQ-7.1, Provide Filtration Systems for On-site Residences and Daycare Centers as Necessary to Reduce Operational Cancer Risks and Exposure to Particulate Matter $_{2.5}$ Microns in Diameter or Less.** Therefore, the less-than-significant impact related to operational health risk would result from Scheme C. This determination is consistent with the findings reached in the 2016 EIR. Therefore, Scheme C would result in no new significant impact and no more severe a significant impact than identified in the 2016 EIR with respect to operational health risk.

Asbestos

The 2016 EIR evaluated asbestos exposure risks during construction. Scheme C would result in the same activities and therefore would be subject to the same BAAQMD regulations for asbestos control. The potential impacts of Scheme C would be consistent with the findings reached in the 2016 EIR. Scheme C would result in no new significant impact and no more severe a significant impact than disclosed in the 2016 EIR with respect to asbestos exposure.

TABLE 6.5-3
SCHEME C MAXIMUM PROJECT OPERATION EXCESS LIFETIME CANCER RISK

Sources	Excess Lifetime Cancer Risk (in a million)						
	On-Site Resident	**Off-Site Resident**	**Daycare**	**Off-Site Worker**	**On-Site Worker**	**School**	**Recreational**
Off-Site Delivery Trucks	2.3	0.4	1.3	0.73	0.046	0.093	0.052
On-Site Delivery Trucks	0.066	1.057	0.04	0.200	0.21	0.0114	0.40
Truck Idling	0.065	0.720	0.04	0.064	0.48	0.013	0.10
Off-Site TRU Trailer	3.2	0.63	1.8	0.33	0.045	0.13	0.060
On-Site TRU Trailer	0.034	0.553	0.020	0.068	0.18	0.0064	0.187
Unloading TRU Trailer	0.074	0.822	0.04	0.073	0.55	0.015	0.12
Off-Site Passenger Vehicle	0.27	0.05	0.154	0.013	0.0033	0.015	0.0050
Emergency Generator	0.29	4.32	0.16	0.16	0.58	0.055	0.54
2015 AERSCREEN – Docks	1.1	1.1	0.48	0.063	0.027	0.061	0.14
2015 AERSCREEN – Generators	0.090	0.090	0.040	0.0051	0.0023	0.0050	0.012
Operations Total	7.5	9.6	4.1	1.7	2.1	0.41	1.6
BAAQMD Thresholds	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

SOURCE: Ramboll 2024.

TABLE 6.5-4
SCHEME C MAXIMUM PROJECT OPERATION CHRONIC HAZARD INDEX

Sources	Chronic Hazard Index						
	On-Site Resident	**Off-Site Resident**	**Daycare**	**Off-Site Worker**	**On-Site Worker**	**School**	**Recreational**
Off-Site Delivery Trucks	6.2E-04	4.6E-04	2.6E-04	0.0024	1.5E-04	2.2E-04	1.1E-04
On-Site Delivery Trucks	1.8E-05	2.1E-05	6.8E-06	6.5E-04	6.7E-04	2.7E-05	8.4E-04
Truck Idling	1.7E-05	2.3E-05	7.0E-06	2.1E-04	0.0016	3.1E-05	2.1E-04
Off-Site TRU Trailer	8.6E-04	0.0008	4.0E-04	1.1E-03	1.4E-04	3.1E-04	1.3E-04
On-Site TRU Trailer	9.2E-06	1.2E-05	3.8E-06	2.2E-04	5.8E-04	1.5E-05	3.9E-04
Unloading TRU Trailer	2.0E-05	2.7E-05	8.0E-06	2.3E-04	0.0018	3.5E-05	2.4E-04
Off-Site Passenger Vehicle	0.0012	0.0020	0.0021	6.9E-04	1.7E-04	5.6E-04	0.0002
Emergency Generator	7.8E-05	1.0E-04	4.2E-05	5.2E-04	0.0019	1.3E-04	1.1E-03
2015 AERSCREEN – Docks	0.010	0.010	0.010	0.010	0.010	0.010	0.010
2015 AERSCREEN – Generators	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Operations Total	0.023	0.023	0.023	0.026	0.027	0.021	0.023
BAAQMD Thresholds	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

SOURCE: Ramboll 2024.

TABLE 6.5-5
SCHEME C MAXIMUM PROJECT OPERATION $PM_{2.5}$ CONCENTRATIONS

Sources	$PM_{2.5}$ Concentrations (µg/m3)						
	On-Site Resident	**Off-Site Resident**	**Daycare**	**Off-Site Worker**	**On-Site Worker**	**School**	**Recreational**
Off-Site Delivery Trucks	0.0036	0.004	0.0044	0.0059	0.0070	0.0038	0.0028
On-Site Delivery Trucks	9.8E-05	6.2E-04	1.2E-04	2.8E-04	0.0104	4.6E-04	1.6E-04
Truck Idling	2.6E-05	2.2E-04	3.3E-05	8.8E-05	0.0007	1.5E-04	3.7E-05
Off-Site TRU Trailer	0.0015	0.0024	0.0019	0.0019	0.0019	0.0014	0.0023
On-Site TRU Trailer	1.4E-05	9.7E-05	1.8E-05	4.4E-05	9.9E-04	7.0E-05	2.1E-05
Unloading TRU Trailer	2.9E-05	2.4E-04	3.7E-05	9.7E-05	0.0008	1.6E-04	4.1E-05
Off-Site Passenger Vehicle	0.18	0.248	0.23	0.25	0.132	0.061	0.242
Emergency Generator	1.8E-04	8.1E-04	2.1E-04	4.0E-04	0.0025	6.5E-04	2.4E-04
2015 AERSCREEN – Docks	0.010	0.010	0.010	0.010	0.010	0.010	0.010
2015 AERSCREEN – Generators	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Operations Total	0.20	0.276	0.258	0.281	0.18	0.09	0.268
BAAQMD Thresholds	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**

SOURCE: Ramboll 2024.

Odors

Advanced manufacturing has the potential to generate odors that were not evaluated in the 2016 EIR. Scheme C introduces light industrial land use in the form of warehouse or light manufacturing that was not considered in the 2016 EIR. Potential odor sources from warehouse operations would include diesel exhaust from deliveries and shipments. Odor impacts would be limited to circulation routes, and parking areas. Although such brief exhaust-related odors may be considered adverse, they would not be atypical of developed urban areas. As described above in Section 4, the light industrial land use would not permit wastewater treatment, confined animal facilities, composting stations, refineries, chemical manufacturing plants, which are odor-generating facilities identified by BAAQMD.[28] Furthermore, as described above, light industrial uses would be limited to operations within an enclosed building that are not objectionable or detrimental to adjacent properties because odor emanating from the property. However, if other odor-generating facilities identified by BAAQMD, such as food manufacturing plants, were proposed, project operations would be subject to the requirements of BAAQMD Regulation 7, which would control potential impacts (see Appendix C). Therefore, the impact of Scheme C would remain consistent with the 2016 EIR's determination that a less-than-significant impact with mitigation incorporated would result. Scheme C's potential significant impacts relating to odor generation would be mitigated to a less-than-significant level by implementation of 2016 EIR Mitigation Measure **HAZ-2.1, Finalize Waste Management Plan for Construction**.

Cumulative Air Quality Impacts

New residential land uses will become occupied along Calle del Mundo under the Tasman East Specific Plan. These residential uses developed along Calle del Mundo under the Tasman East Specific Plan would represent new sensitive receptors that were not anticipated or considered in the 2016 EIR. These uses were included in the health risk assessment conducted for both construction-related and operational toxic air contaminants as were additional daycare receptors within 1,000 meters of the Project boundary. Therefore, the results of the analysis provided in Tables 6.5-2, 6.5-3, and 6.5-4 were inclusive of cumulative development of sensitive land uses and, as set forth above, Scheme C would result in no new significant impact and no more severe significant health risk impacts than identified in the 2016 EIR. Accordingly, Scheme C would result in no new or more severe contribution to cumulative exposure health risks of sensitive receptors. The impact would be similar to that included in the 2016 EIR for the Approved Project and would be cumulatively considerable and unavoidable with mitigation.

Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant impact and no substantial increase in the severity of a significant impact on air quality than was disclosed in the 2016 EIR, nor would it result in new significant impacts related to air quality that were not identified in the 2016 EIR. Mitigation Measures **AQ-2.1, Utilize Clean Diesel-Powered Equipment during Construction to Control Construction-Related Reactive Organic Gas (ROG) and Oxides of Nitrogen (NOx) Emissions**; **AQ-2.2, Use Modern Fleet for On-Road Material Delivery and Haul Trucks during Construction**; **AQ-2.3, Implement Bay Area Air**

[28] Bay Area Air Quality Management District. 2022. California Environmental Quality Act Air Quality Guidelines: Chapter 5. "Project-Level Air Quality Impacts". April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-5-project-air-quality-impacts_final-pdf.pdf?rev=de582fe349e545989239cbbc0d62c37a&sc_lang=en. Accessed July 29, 2024.

Quality Management District (BAAQMD) Additional Construction Mitigation Measures to Reduce Construction-Related Dust and Exhaust Emissions; **AQ-2.4, Offset NOx Emissions Generated during Construction that Are above BAAQMD NOx Average Daily Emission Threshold**; **AQ-6.1, Assess Construction Diesel Particulate Matter (DPM) Emissions Potential Prior to Construction, Utilize Clean Diesel-Powered Equipment, Filtration Systems, and/or other Measures as Necessary to Reduce Cancer Risks Associated with DPM during Construction; AQ-7.1, Provide Filtration Systems for On-site Residences and Daycare Centers as Necessary to Reduce Operational Cancer Risks and Exposure to Particulate Matter 2.5 Microns in Diameter or Less;**; **and HAZ-2.1, Finalize Waste Management Plan for Construction** (see Appendix A) would be applicable to and would be implemented by Scheme C. These mitigation measures would ensure that while some emissions or risks may increase, the impacts related to air quality would be equal to, or less severe than, those previously identified and disclosed in the EIR.

6.6 Greenhouse Gas Emissions

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. Generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment. For the purposes of this analysis, a "significant impact" from GHG emissions would occur if emissions exceed thresholds described below; or	☒	☐	☐
b. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. For the purposes of this analysis, applicable plans include the AB 32 Scoping Plan and the City's [2013] CAP (consistency with the goals in EO B-30-15 and EO S-03-05 is also evaluated).	☒	☐	☐

6.6.1 2016 EIR Findings

The 2016 EIR determined that, with implementation of the identified mitigation measures, the Approved Project's emissions would not exceed BAAQMD significance thresholds, based on consistency with Assembly Bill 32's greenhouse gas reduction target for 2020, but would exceed BAAQMD's efficiency metric (developed for year 2020 reduction targets) that was adjusted to 2.7 metric tons (MT) per Service Population to account for "Substantial Progress" to meet the state's increased GHG reduction goals for year 2030. Therefore, the 2016 EIR determined that the impact of the Approved Project relating to GHG emissions would be significant and unavoidable.

The Approved Project was found to be consistent with the 2006 Assembly Bill 32 Scoping Plan (less-than-significant). The Approved Project was not included in the socioeconomic forecasts underlying the Santa Clara Climate Action Plan (2013) (CAP) and so did not tier from the CAP for purposes of a significance determination. Nonetheless, the 2016 EIR determined that, with implementation of GHG and Traffic mitigation measures, the Approved Project would be consistent with the CAP. Mitigation Measures **GHG-1.1, Utilize Alternative Fuels during Construction**; **GHG-1.2, Operational GHG Emissions Reduction Measures**; **AQ-2.4, Offset NOX Emissions Generated during Construction that Are above BAAQMD NOX Average Daily Emission Threshold**; **HAZ-2.1, Finalize Waste Management Plan for Construction**; and **TRA-1.1, Vehicle Trip Reduction with Transportation Demand Management (TDM)** were identified to utilize alternative fuels during construction and implement operational emissions reduction strategies, but these will not achieve the long-term GHG reduction targets of Executive Orders S-03-05 and B-30-15, and the impact with respect to plan consistency was found to be significant and unavoidable.

6.6.2 Project Analysis

The discussion of Scheme C's GHG analysis is informed by the technical memorandum prepared for Scheme C by Ramboll (Appendix C).

GHG Emissions Impacts of Scheme C

The results of the analysis included in Appendix C indicate that GHG emissions under Scheme C would be reduced compared to those estimated for the Approved Project in the 2016 EIR. Specifically, GHG emissions under Scheme C with a manufacturing land use are estimated to be 90,009 Metric Tons of CO_2

equivalents (MTCO2e) per year. This is a reduction of 4.3 percent from the estimated 94,014 MTCO2e estimated in the 2016 EIR. GHG emissions under Scheme C with a warehouse land use are estimated to be 89,713 MTCO2e per year. This is a reduction of 4.6 percent from the estimated 102,837 MTCO2e estimated in the 2016 EIR.

However, the service population under Scheme C would be reduced compared to the service population estimated for the Approved Project. BAAQMD's efficiency metric (developed for year 2020 reduction targets) was adjusted from 4.6 MT/Service Population to 2.7 MT/Service Population to account for "Substantial Progress" to meet the state's increased GHG reduction goals for year 2030. GHG emissions under Scheme C would continue to exceed the 2030 "Substantial Progress" Efficiency Metric (MT/Service Population) of 2.7, applied in the 2016 EIR. Specifically, GHG emissions under Scheme C with a manufacturing land use are estimated to be 3.26 MTCO2e per service population and GHG emissions under Scheme C with a warehouse land use are estimated to be 3.25 MTCO2e per service population. This is an increase in per service population emissions of approximately 1 percent, which would not be a substantial increase, particularly given the fact that overall GHG emissions would decrease under Scheme C. Therefore, consistent with the conclusions in the 2016 EIR, the Scheme C GHG impact would be significant and unavoidable. Nevertheless, because GHG emissions would be reduced, Scheme C would not result in a new or more severe GHG emissions impact than the GHG impact evaluated in the 2016 EIR.

Consistency with Plans to Reduce GHG Emissions

Similar to the findings of the 2016 EIR, development under Scheme C would implement all applicable measures in the City's 2013 CAP, which was the current applicable document at the time of the 2016 EIR and thus the appropriate benchmark for comparing impacts of Scheme C to the Approved Project. Because the 2013 CAP includes more reductions than are necessary to meet the CAP target of 15 percent below 2008 levels, the addition of the Approved Project emissions were found not to result in the City exceeding the CAP goal and the Approved Project was considered consistent with the 2013 CAP with respect to GHG emissions reduction goals. As discussed above, GHG emissions under Scheme C would be reduced compared to those estimated for the Approved Project. Therefore, it follows that Scheme C would also be consistent with the 2013 CAP and would not result in a new or more severe impact with respect to consistency with the 2013 CAP adopted for the purpose of reducing the emissions of GHGs.

It is acknowledged that the City of Santa Clara updated its CAP in 2022 and this updated CAP contains more aggressive GHG reduction targets and measures. However, because this document was not adopted at the time of the 2016 EIR, it is not applicable to this assessment of the impacts of Scheme C as a project change pursuant to Public Resources Code section 21166.

The 2016 EIR found that the identified mitigation measures for construction and operational emissions reduction strategies were not sufficient to achieve the long-term GHG reduction targets of Executive Orders S-03-05 and B-30-15, and the impact with respect to consistency with state plans was found to be significant and unavoidable. This policy-related impact would also be true under Scheme C. However, as discussed above, GHG emissions under Scheme C would be reduced compared to those estimated for the Approved Project. Therefore, it follows that while Scheme C would also be inconsistent with GHG reduction targets of Executive Orders S-03-05 and B-30-15, it would not result in a new or more severe

impact with respect to consistency with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

6.6.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant impact and no substantial increase in the severity of a significant impact on GHG emissions than was disclosed in the 2016 EIR, nor would it result in new significant impacts related to GHG emissions that were not identified in the 2016 EIR. Mitigation Measures **GHG-1.1, Utilize Alternative Fuels during Construction**; **GHG-1.2, Operational GHG Emissions Reduction Measures**; **AQ-2.4, Offset NOx Emissions Generated during Construction that Are above BAAQMD NOx Average Daily Emission Threshold**; **HAZ-2.1, Finalize Waste Management Plan for Construction**; and **TRA-1.1, Vehicle Trip Reduction with Transportation Demand Management (TDM)** (see Appendix A) would be applicable to and would be implemented by Scheme C. These mitigation measures would ensure that impacts related to GHG emissions would be equal to, or less severe than, those previously identified and disclosed in the 2016 EIR.

6.7 Noise

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies;	☒	☐	☐
b. Expose persons to or generate excessive ground-borne vibration or ground-borne noise levels;	☒	☐	☐
c. Result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project;	☒	☐	☐
d. Result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project;	☒	☐	☐
e. Be located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and expose people residing or working in the Project area to excessive noise levels; or	☒	☐	☐
f. Be located in the vicinity of a private airstrip and expose people residing or working in the Project area to excessive noise levels.	☒	☐	☐

6.7.1 2016 EIR Findings

While the Project site is located within an airport land use plan area and near the San José Mineta International Airport, there are no private airstrips in the Project site vicinity and no related noise impact would occur. The 2016 EIR identified Mitigation Measure **NOI-1.1** to prepare and implement a construction noise control plan that would reduce Approved Project construction noise impacts for both on-site and off-site land uses. Project operations, however, would result in significant and unavoidable impacts for off-site land uses, primarily associated with increased traffic noise. Although the 2016 EIR imposed Mitigation Measure **NOI-1.2** to construct noise barriers and implement an off-site noise control plan, the 2016 EIR determined that the impact would remain significant unavoidable.

Regarding ground-borne vibration, Mitigation Measure **NOI-2.1** addressing pile driving was found to mitigate noise impacts related to project construction to on-site receptors. No ground-borne vibration impacts were identified for off-site receptors.

Significant noise and vibration impacts for on-site land uses related to traffic noise, light rail service, passenger train service, and San José Mineta International Airport operations are considered to be impacts of the environment on a project and therefore not CEQA impacts. Nonetheless, the 2016 EIR included potential strategies to address the noise and vibration problems, including a design-level operational vibration control plan that the City Council adopted as Condition of Approval 8.

6.7.2 Project Analysis

Construction Noise Impacts on Off-Site Land Uses

The construction footprints between the Approved Project and Scheme C would not change substantially and, because the increase in density in Parcel 4 would likely be accommodated by increased building height within the maximums permitted by the MCP, as amended by the MCP Scheme C Supplement, construction noise and vibration impacts would be similar to those indicated in the 2016 EIR. [29] The increased density in Parcel 4 could result in an increased duration of the overall construction timeline for the City Center Parcels. However, Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR and would not result in intensified construction emissions over a shorter period of time. Scheme C construction-related activity, including demolition, required infrastructure improvements on- and off-site, and general building locations and envelopes are similar to the Approved Project analyzed in the 2016 EIR. Scheme C construction would use similar equipment to the equipment analyzed in the 2016 EIR. New residential uses approved under the Tasman East Specific Plan since the 2016 EIR are addressed in the cumulative analysis below. While there could be a greater duration of construction activity, this would not affect the magnitude of the noise levels experienced at nearby receptors and would not result in a further temporary or periodic increase in ambient noise levels which is the CEQA threshold. Construction-related noise impacts would be reduced to less-than-significant levels with implementation of Mitigation Measures **NOI-1.1, Prepare and Implement a Construction Noise Control Plan to Reduce Construction Noise at Adjacent Land Uses**; **NOI-1.2, Implement Off-Site Traffic Noise Reduction Measures,** and **NOI-2.1, Restrict Pile Driving**. Therefore, construction-related noise impacts associated with Scheme C would also be less-than-significant with mitigation incorporated. As a result, Scheme C would cause no new significant impact and no substantial increase in the severity of a significant impact due to construction noise and off-site land uses than was disclosed in the 2016 EIR.

Operational Noise Impacts on Off-Site Land Uses

Stationary Noise Sources

Operational noise impacts associated with Scheme C are analyzed in the *Related Santa Clara Scheme C Noise Technical Report* (Noise Report) (Appendix D). The analysis in the Noise Report examines stationary noise sources that may be associated with industrial and warehouse uses not envisioned in the 2016 EIR including noise from the following sources:

- Heating Ventilation and air conditioning (HVAC) equipment;
- Back-up diesel; generators;
- On-site Heavy-duty truck maneuvering
- Operation of back-up alarms

[29] As noted in Section 4.1 of this Addendum, the proposed MCP Scheme C Supplement would revise the formulation of the height limits to permit towers on Parcel 4 of up to approximately 10-12 stories, with a maximum building height consistent with ALUC regulations and Federal Aviation hazard limits pursuant to FAA Federal Aviation Regulations, FAR Part 77 criteria. Although this revision would remove the 219 feet above msl height limit on Parcel 4, the revised height limits would remain consistent with applicable General Plan Policy 5.10.5-P30 and General Plan Policy 5.10.5-P33 that require compatibility with the Airport Land Use Compatibility Plan and Federal Aviation Administration Federal Aviation Regulations, FAR Par 77 criteria hazard height limits at San José Mineta International Airport, respectively.

Stationary Equipment

Scheme C would replace the office land uses proposed under the Approved Project on Parcels 1 and 2 with approximately 1.6 million square feet (sf) of warehouse or manufacturing uses. While the 17-story towers analyzed for the Approved Project would require large, packaged HVAC equipment on the rooftops; industrial uses would also likely require large, packaged HVAC units on rooftops approximately 60 feet in height. In addition, the industrial/warehouse uses under Scheme C would potentially require back-up diesel generators. The 17-story height limit approved under the Approved Project would also have required back-up diesel generators for emergency egress. Because the intensity of noise reduces as the distance from the source increases, installing rooftop mechanical equipment at lower heights would reduce the distance between the source and potential sensitive receptors, thereby increasing noise intensity. However, as demonstrated in the Noise Report, operational noise from rooftop-mounted HVAC equipment and daytime testing of exterior back-up generators would be well below the applicable daytime and nighttime noise standards at the nearest receptors. Hence, operation of stationary equipment under Scheme C development would not result in any new or more severe noise impacts than disclosed in the 2016 EIR.

On-site Truck Maneuvering

Potential warehouse uses under Scheme C could result in truck maneuvering and operation of transportation refrigeration units (TRUs) within the Project site that would be the source of on-site stationary noise that was not a consideration in the 2016 EIR. The analysis in the Noise Report indicates that operational noise from on-site truck maneuvering and TRU operations at the nearest receptors would be well below the applicable daytime and nighttime noise standards.[30] Hence, truck maneuvering and operation of TRUs under Scheme C development would cause no new significant impact and no substantial increase in the severity of a significant impact due to noise from on-site truck maneuvering than was disclosed in the 2016 EIR.

Operation of backup alarms

Industrial and warehouse uses would be required to operate back-up alarms on both trucks and forklifts to ensure worker safety. Additionally, the industrial/warehouse uses on Parcels 1 and 2 could operate 24 hours per day and hence increase noise levels from backup alarms during the more sensitive nighttime hours.[31] The Noise Report assumed all forklifts would operate within building interiors. The Noise Report conservatively assumed an aggregate of ten trucks employing backup alarms simultaneously throughout Parcel 2 (the parcel closest to sensitive receptors) during the busiest nighttime hour (6 a.m. to 7 a.m.). Under this assumption, the resultant noise level would be 55 dBA at the nearest sensitive receptor, which would not exceed the applicable nighttime noise standard. Consequently, the Noise Report indicates that operations under Scheme C would be able to be conducted consistent with the restrictions of the City of Santa Clara Noise Ordinance and not result in a new significant operational noise impact.

As described in the 2016 EIR, subsequent site development would require application for and approval of one or more Development Area Plans and Architectural Review applications submitted in accordance with MCP Appendix C procedures. Development Area Plans or Architectural Review applications would include site-specific design details including building heights and configurations, number and location of

[30] As described in the MCP Scheme C Supplement, refrigerated warehouse space would be permitted up to a maximum of 50 percent of the building square footage on Parcels 1 and 2.

[31] The City of Santa Clara Noise Ordinance considers nighttime hours to be from 10:00 p.m. to 7:00 a.m.

truck loading dock doors, and trucking operation details. Each subsequent development proposal will be required to confirm its capability of compliance with the City of Santa Clara noise ordinance in the context of Development Area Plan review and approval. Scheme C does not change the 2016 EIR's subsequent site development requirements.

Project-Generated Traffic Noise

Scheme C would replace the office land uses proposed under the Approved Project with approximately 1.6 million sf of warehouse or manufacturing uses. Overall, the square footage of development would remain the same as the Approved Project. However, the industrial/warehouse uses on Parcels 1 and 2 would generate a higher percentage of heavy trucks than what was considered in the 2016 EIR. Additionally, the industrial/warehouse uses on Parcels 1 and 2 could operate 24 hours per day and hence increase noise levels during the more sensitive nighttime hours. Therefore, the Noise Report considered the Scheme C increase over background (2020) conditions relative to the significance criteria applied in the 2016 EIR and also compared the resultant traffic noise levels to those predicted for the Approved Project in the 2016 EIR. In addition, the Noise Report predicted the noise level increases during the 6:00 a.m. to 7:00 a.m. hour which is the nighttime hour during which the most truck trips would be generated.

First the noise generated by background (2020) vehicle trips were compared to the noise generated by background (2020) plus Scheme C vehicle trips, which were conservatively assumed to be heavy trucks. As indicated in the report, no roadways would experience an increase of 3 dBA or more and the impact would not be significant using the criteria applied in the 2016 EIR. Additionally, modeled roadside noise levels for background (2020) plus Scheme C would be lower than what was predicted for the Existing plus Approved Project in the 2016 EIR.

Because industrial/warehouse uses on Parcels 1 and 2 could operate 24 hours per day, an additional analysis was conducted to predict the increase in roadway noise that would occur during the peak nighttime hour (6:00 a.m. to 7:00 a.m.). For this analysis the noise generated by background (2020) vehicle trips are compared to the noise generated by background (2020) plus Scheme C vehicle trips. All truck trips of the Scheme C increment were conservatively assumed to be heavy trucks. The results of this analysis indicate that only one roadway (two segments of Great America Parkway) would experience an increase of 3 dBA or more. However, because there are no noise-sensitive receptors located along these two segments, the impact would not be significant. Consequently, implementation of Scheme C would not result in roadside noise levels perceived by sensitive receptors that are greater than those that were predicted in the 2016 EIR and would cause no new significant impact and no substantial increase in the severity of a significant impact due to traffic noise than was disclosed in the 2016 EIR.

Vibration-related Impacts

As discussed above with respect to construction noise, it is assumed that the construction footprints between the Approved Project and Scheme C would not change substantially and that, because the increase in density in Parcel 4 would likely be accommodated by increased building height, construction noise and vibration impacts would be similar to those identified in the 2016 EIR with the changes primarily resulting in an increased duration of the overall construction timeline for the City Center parcels. An increased duration of less-than-significant vibration levels would not result in a new or more

severe significant impact. Therefore, construction-related vibration impacts associated with Scheme C would also be less-than-significant with mitigation (**NOI-2.1**: Restrict Pile Driving for on-site receptors).

With respect to operational vibration impacts of existing rail activity on portions of Parcel 5 that were identified in the 2016 EIR, Scheme C would not result in any changes in the development scheme for Parcel 5. Therefore, the operational vibration impact of Scheme C would (like the Approved Project) be less-than-significant with the implementation of Mitigation Measure **NOI-2.2**. It is further noted that the potential effects of the environment on the project are no longer legally required to be analyzed or mitigated under CEQA, except where the project impacts exacerbate the existing conditions. Notwithstanding this change in CEQA implementation, this mitigation measure would still be required for Scheme C.

Airport-related Impacts

Scheme C would increase the density of the approved uses in the City Center Mixed Use & Northwest Office (Parcel 4) relative to the Approved Project analyzed in the 2016 EIR. Therefore, while there may be more residences with outdoor living space within the 65 CNEL contour of the 2011 CLUP under Scheme C, it would have the same significant and unavoidable aircraft noise impact described in the 2016 EIR, as Mitigation Measure **NOI-1.3** would not reduce airport noise in outdoor areas. This impact would not be exacerbated by the increased in building height to accommodate additional residential uses because the noise contours that are the basis for assessment in the CLUP are not affected by elevation of the receiving land use.

Further, the County Airport Land Use Commission adopted an update to its CLUP in March 2024 that contains updated Noise Contours for airport operations. Based on the 2024 contours contained in Figure 5 of the 2024 CLUP, the City Center and Parcels 1 and 2 are no longer within the 65 CNEL noise contour.

Cumulative Noise Impacts

As stated above, for construction noise, the same equipment would be used and the same distance to receptors analyzed in the 2016 EIR would occur. While there could be a greater duration of construction activity, this would not affect the magnitude of the noise levels experienced at nearby receptors and would not result in a further temporary or periodic *increase* in ambient noise levels which is the CEQA threshold. Therefore, the cumulative impacts of Scheme C from construction would be the same as identified in the 2016 EIR. While there is existing cumulative construction occurring along Calle del Mundo under the Tasman East Specific Plan that was not anticipated in the 2016 EIR, this construction will be complete by the time construction under Scheme C commences. Therefore, there would be no new cumulative construction noise impacts.

Cumulative noise impacts from operations would occur if new sources were to be developed within 800 feet of project elements. While there will be new residential land uses becoming occupied along Calle del Mundo due to the Tasman East Specific Plan that were not anticipated in the 2016 EIR, residential uses are generally not considered to be a noise generating use for CEQA purposes. Therefore, other than the Calle del Mundo project's contribution to traffic noise (discussed below), the addition of these recently approved residential uses would not increase the cumulative noise environment, and no new or more severe impacts would result. However, residential uses developed along Calle del Mundo under the Tasman East Specific Plan would represent new noise-sensitive receptors that were not considered in the

2016 EIR. New residential receptors along Calle del Mundo would be located as close as 100 feet from the footprint of buildings to be constructed on Parcel 1. The 2016 EIR found that noise levels resulting from construction of the Approved Project would temporarily exceed the City Code noise limits at sensitive land uses as close as 200 feet away during non-exempt hours and that construction noise impacts on off-site land uses would be significant. This would also be the case under Scheme C and Mitigation Measure **NOI-1.1** would still be required. The construction noise control plan implemented by this measure would require the construction contractor to implement best management practices to reduce construction-generated noise at surrounding land uses in the Project vicinity and within the Project site where necessary to comply with the City Code noise limits. The construction noise control plan would require construction that could affect new and existing residential land uses and construction located within 300 feet of residential areas, such as those proposed along Calle del Mundo, to occur only during the hours specified in the City Code. Therefore, cumulative construction-related noise impacts associated with Scheme C would also be less-than-significant with mitigation incorporated. As a result, Scheme C would cause no new significant impact and no substantial increase in the severity of a significant impact due to construction noise and off-site land uses than was disclosed in the 2016 EIR.

Operational noise impacts of Scheme C would result primarily from increased traffic on the local roadway network. Cumulative (year 2035) plus project traffic data were used to estimate cumulative operational noise increases. The 2035 traffic data inherently include City growth projections.[32] The significance of cumulative impacts related to traffic noise levels is determined using a two-step process. If a cumulative impact is identified, the second step is to evaluate whether the contribution of the project to roadside noise levels would be cumulatively considerable. As demonstrated in the *Noise Report*, significant cumulative traffic noise impacts would occur along 11 of the 13 roadways analyzed. Among these 11 roadways, the traffic noise associated with Scheme C would cause an increase of 1.0 dBA or more over the cumulative without project scenario along six of the roadways. Consistent with the threshold of significance identified in the 2016 EIR, these incremental increases would be a cumulatively considerable contribution to the significant cumulative impact. However, sensitive receptors are located along two of the six roadway segments for which a significant cumulative contribution is identified. Consistent with the analysis of the 2016 EIR, cumulative roadway impacts were further assessed to determine if specific noise receptors would be affected, given the actual distances to potential sensitive uses.

While Scheme C would cause a cumulatively considerable contribution to the cumulative traffic noise impacts along two segments of Tasman Drive where noise-sensitive receptors could be affected, the 2016 EIR identified significant and unavoidable cumulative traffic impacts along four roadway segments. Therefore, Scheme C would result in a fewer number of impacted roadways than identified in the 2016 EIR and would not cause a new significant impact or a substantial increase in the severity of a significant impact that was disclosed in the 2016 EIR due to traffic noise.

6.7.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of the Scheme C development would cause no new significant environmental effects and no substantial

[32] See the *2024 Related Santa Clara Traffic Analysis Memo* prepared by Arup for the Project Applicant and peer reviewed by Hexagon for the City of Santa Clara. Per the *2024 Related Santa Clara Traffic Analysis Memo*, cumulative traffic volumes are based on the latest available County of Santa Clara Travel Demand Model outputs considering current data for development projects and adjusted for 2018/19 traffic counts. See also Appendix B.

increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR, nor would it result in new significant impacts related to noise that were not identified in the 2016 EIR. Mitigation Measures **NOI-1.1, Prepare and Implement a Construction Noise Control Plan to Reduce Construction Noise at Adjacent Land Uses**; **NOI-1.2, Implement Off-Site Traffic Noise Reduction Measures; NOI-2.1, Restrict Pile Driving**; and **NOI-5.1, Prepare and Implement a Noise Control Plan to Reduce Interior Noise at Sensitive Land Uses** (see Appendix A) would be applicable to and would be implemented by Scheme C. These mitigation measures would ensure that impacts related to noise would be equal to, or less severe than, those previously identified and disclosed in the 2016 EIR.

6.8 Cultural Resources

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;	☒	☐	☐
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5;	☒	☐	☐
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or	☒	☐	☐
d. Disturb any human remains, including those interred outside of formal cemeteries.	☒	☐	☐

6.8.1 2016 EIR Findings

Historical Resources

At the time the 2016 EIR was prepared, the structures that would be demolished as part of the Approved Project were not more than 50 years old, did not meet local, State, or federal criteria for significance, and were not eligible for the California Register of Historical Resources (CRHR). Likewise, the 2016 EIR determined that, although the Pacific Railroad/)Alviso alignment, which runs along Lafayette Street between State Route 237 and Tasman Drive appears to have been in use since 1877, the alignment has modern rails and ballast, suggesting the route has been subject to continuous maintenance activities and would not be considered eligible to the CRHR. Therefore, the 2016 EIR determined that no historical structures would be affected by the Approved Project, and it identified no impact on historical resources.

Archaeological and Paleontological Resources

The 2016 EIR found that there was potential for previously undiscovered prehistoric archaeological resources along the east side of the Guadalupe River that could be affected by ground-disturbing activities, which would result in a significant impact. However, the 2016 EIR imposed Mitigation Measures **CR-1.1, Conduct Extended Phase I (XPI) Archaeological Investigations within the Project Site near Recorded Resources and within an Area of Archaeological Sensitivity; CR-1.2, Provide Archaeological Monitoring of the Project Site When in Native Soil**; and **CR-1.3, Stop Work if Cultural Resources Are Encountered during Ground- Disturbing Activities**; that would reduce the impact to a less-than-significant level.

The 2016 EIR determined that, based on the existing conditions, deep pilings constructed to support Approved Project foundations would have a less-than-significant impact on unique paleontological resources. The 2016 EIR also determined that, should final design of the Approved Project dictate that excavation extend beyond 30 feet below existing ground surface in non-refuse areas on or off the Project site, impacts on paleontological resources would be significant and the implementation of Mitigation Measures **CR-2.1, Paleontological Resource Mitigation Plan**; **CR-2.2,** and **Paleontological Resource Monitoring** would reduce them to a less-than-significant level.

Human Remains

The 2016 EIR identified no human remains in the Project site during a background records search. However, human burials since have been identified in one of the resources within 0.5-mile of the Project site. Therefore, it is possible that additional undiscovered human remains could be encountered during ground-disturbing activities associated with the Approved Project in areas that are not covered by landfill. Therefore, the impact was determined to be significant. The 2016 EIR identified a stop work Mitigation Measure **CR-3.1, Stop work if human remains are encountered during ground-disturbing activities,** if human remains are encountered, the implementation of which would reduce the impacts on human remains to a less-than-significant level.

6.8.2 Project Analysis

Historical Resources

Scheme C would occur within similar building height limits and the same Project site as the Approved Project and would involve demolition of same existing buildings on the Project site as the Approved Project. All the buildings on the Project site were constructed between 1984 and 1999. Because none of the structures is more than 50 years old, the existing structures are still not eligible for the CRHR. Accordingly, the passage of time between the 2016 EIR and this Addendum does not constitute a substantial change with respect to the circumstances under which the project is being undertaken and revisions to the 2016 EIR are not needed to address a new significant environmental effect or a substantial increase in the severity of previously identified significant effect on historical resources.

Archaeological and Paleontological Resources and Human Remains

Construction activities for Scheme C (including demolition, infrastructure improvements on- and off-site, general building locations, and building foundations) would be similar to what was anticipated for the Approved Project and analyzed in the 2016 EIR. Furthermore, Scheme C would be developed on the same Project site with the same potential impacts on archaeological and paleontological resources and human remains as the Approved Project. Therefore, Scheme C would cause no new significant environmental effect and no substantial increase in the severity of previously identified significant effect than was identified in the 2016 EIR on archaeological and paleontological resources and human remains.

All related mitigation measures identified under the 2016 EIR would apply to Scheme C and would mitigate impacts to a less-than-significant level, including: **CR-1.1, Conduct Extended Phase I (XPI) Archaeological Investigations within the Project Site near Recorded Resources and within an Area of Archaeological Sensitivity; CR-1.2, Provide Archaeological Monitoring of the Project Site When in Native Soil**; **CR-1.3, Stop Work if Cultural Resources Are Encountered during Ground-Disturbing Activities**; **CR-2.1, Paleontological Resource Mitigation Plan**; **CR-2.2, Paleontological Resource Monitoring, CR-2.3, Paleontological Resource Reporting,** and **CR-3.1, Stop work if human remains are encountered during ground-disturbing activities**.

Cumulative Cultural Resources Impacts

As described above, Scheme C would not result in an increase in the severity of previously identified less-than-significant-with-mitigation cultural resources impacts including archaeological resources, paleontological resources, and human remains. Therefore, Scheme C's incremental contribution would

not be cumulatively considerable because Scheme C would not result in new significant impacts compared to those disclosed in the 2016 EIR.

6.8.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR, nor would it result in new significant impacts related to cultural resources that were not identified in the 2016 EIR. Mitigation Measures **CR-1.1, Conduct Extended Phase I (XPI) Archaeological Investigations within the Project Site near Recorded Resources and within an Area of Archaeological Sensitivity; CR-1.2, Provide Archaeological Monitoring of the Project Site When in Native Soil**; **CR-1.3, Stop Work if Cultural Resources Are Encountered during Ground-Disturbing Activities**; **CR-2.1, Paleontological Resource Mitigation Plan; CR-2.2, Paleontological Resource Monitoring** (CR-2.1 and CR-2.2 would include the requirements of **CR-2.3, Paleontological Resource Reporting**); **CR-3.1, Stop work if human remains are encountered during ground-disturbing activities** (see Appendix A) would be applicable to and would be implemented by Scheme C, and would ensure that impacts related to cultural resources would remain at a less-than-significant level, consistent with the impacts identified and disclosed in the 2016 EIR.

6.9 Biological Resources

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
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 DFW or FWS;	☒	☐	☐
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 DFW or FWS;	☒	☐	☐
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, 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.	☒	☐	☐

6.9.1 2016 EIR Findings

The 2016 EIR identified significant impacts related to the movement of native migratory wildlife species, burrowing owl habitats, the western pond turtle, Central California Coast steelhead, chinook salmon, and loss or damage to wetland and other waters. Mitigation Measures **BIO-1.1, Protect Nesting Birds**; **BIO-1.2, Implement Bird-Safe Design Standards into Project Buildings and Lighting Design**; **BIO-2.1, Detection of Burrowing Owls; BIO-2.2, Mitigation for Loss of Burrowing Owl Habitat during Construction**; **BIO-3.1, Protect Western Pond Turtles; BIO-4.1, Protect Central California Coast Steelhead, Critical Habitat, and Chinook Salmon; BIO-5.1, Protect Retention Pond and Eastside Retention Drainage Swale, and San Tomas Aquino Creek and the Guadalupe River Aquatic Habitat during Construction**; **BIO-5.2, Compensate for Loss of Waters of the U.S. and State (including Wetlands)**; **BIO-C.1, Make a Fair-Share Nitrogen Deposition Fee Contribution to the Santa Clara Habitat Agency's Voluntary Fee Payment Program** were identified for each of these significant impacts to monitor and protect such species and replace habitat lost during construction. The 2016 EIR determined that implementation of these measures would reduce Approved Project impacts to less-than-significant levels. However, it is unknown whether the mitigation measure requiring implementation of bird-safe design standards into project building and lighting designs would be enough to mitigate impacts related to bird collisions to a less-than-significant level. Therefore, the 2016 EIR identified bird harm or mortality as a significant and unavoidable impact.

The 2016 EIR determined that Approved Project construction would result in the removal of protected trees in the project area and at the Tasman East Specific Plan Area for the Lick Mill Boulevard Extension. The Approved Project would adhere to the City of Santa Clara General Plan, Policy 5.3.1-P10, which requires developments to replace trees at a ratio of 2:1 (replaced/lost), pursuant to which the developer would be required to plant as many as 2,810 new trees on the Project site, and up to 676 additional trees could be planted on off-site removal locations. A separate policy in the General Plan, 5.10.1-P3, protects heritage trees, but according to the City's Heritage Tree List, there are no heritage trees located on the Project site. Through adherence to Policy 5.3.1-P10, the impact on trees was determined to be a less-than-significant level.

No special-status plant species were documented on the Project site and therefore no impact on special-status plant species was identified for the Approved Project. As also noted in Section 6.2, *Land Use and Planning*, the Approved Project would have no impact on a Habitat Conservation Plan or a Natural Community Conservation Plan.

6.9.2 Project Analysis

Special-Status Species

Scheme C would occur within similar building height limits and the same Project site as the Approved Project. Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR and would not result in intensified construction emissions over a shorter period of time. Scheme C construction-related activity, including demolition, required infrastructure improvements on- and off-site, and general building locations and envelopes are the similar to those analyzed for the Approved Project in the 2016 EIR. Scheme C construction would use similar equipment to the equipment analyzed in the 2016 EIR. Therefore, construction-related impacts related to biological resources would be the same as those identified in the 2016 EIR.

The 2016 EIR determined that the Project site does not contain special-status plant species. However, the Project site contains land cover types that provide suitable habitat for burrowing owls and western pond turtles. It is possible that these species could occur on the Project site prior to development. Implementation of 2016 EIR Mitigation Measures **BIO-1.1, Protect Nesting Birds; BIO-2.1, Detection of Burrowing Owls; BIO-2.2, Mitigation for Loss of Burrowing Owl Habitat during Construction,** and **BIO-3.1 Protect Western Pond Turtles** would reduce this potential significant impact of Scheme C to a less-than-significant level.

The 2016 EIR determined that the Guadalupe River, located approximately 0.03-mile from the Project site, serves as a migratory route to upstream spawning habitat for steelhead and Chinook salmon. As mentioned above, Scheme C would not substantially change the construction activities on the Project site; thus, the construction-related impacts on fish would remain the same as identified and addressed by the 2016 EIR. Furthermore, implementation of 2016 EIR Mitigation Measure **BIO-4.1, Protect Central California Coast Steelhead, Critical Habitat, and Chinook Salmon** would reduce the impacts on steelhead and fall-run Chinook salmon resulting from construction activities adjacent to the Guadalupe River to a less-than-significant level.

Riparian Habitat, Wetlands, and Other Waters

The Project site still contains ponds, wetlands, and a drainage ditch, and is located adjacent to the San Tomas Aquino Creek to the west and the Guadalupe River to the east; both the creek and the river are riparian channels. Consistent with the Approved Project, Scheme C would require roadway work in San Tomas Aquino Creek and would result in the loss of some aquatic land cover types. Final impacts on ditches, creeks, ponds, and vegetated depressions would be calculated once the final design of Scheme C features is complete. If these features are determined to be jurisdictional and if impacts are unavoidable, then the Project Developer shall coordinate with the California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (USACE), and the Regional Water Quality Control Board, as required and appropriate, to develop a compensation plan for the loss of waters of the United States and State per existing regulations. If permitted by trustee and responsible agencies, construction activities (e.g., grading, excavation) associated with habitat creation or enhancement could temporarily disturb waters of the United States and the State. The significant impact caused by the temporary disturbance would be reduced to less-than-significant levels through compliance with SWPPP and San Francisco Bay MS4 Permit Provision C.3, Stormwater Technical Guidance, as well as implementation of 2016 EIR Mitigation Measures **BIO-5.1, Protect Retention Pond and Drainage Swale Aquatic Habitat during Construction** and **BIO-5.2, Compensate for Wetland Loss,** which requires the Project Developer to compensate for the loss of wetlands/water resources through either on-site restoration/creation and/or off-site protection and enhancement of riparian and wetland habitat.

Movement of Native Migratory Wildlife Species

The 2016 EIR assumed that all existing trees at the Project site would be removed and additional off-site trees could be removed for the construction of the Lick Mill Boulevard Extension, the roadway from Great America Parkway over San Tomas Aquino Creek, and the off-site location for the Fire Station 10 relocation. The Project site for Scheme C is the same as the Approved Project. Although Scheme C would not include the Lick Mill Boulevard Connection, Scheme C would still require construction off-site at other locations described above and in the 2016 EIR. Therefore, Scheme C impacts related to the removal of nesting habitats for migratory birds would be the same as those identified in the 2016 EIR. Scheme C would develop within similar building height limits analyzed in the 2016 EIR. Therefore, potential impacts related to the injury or death of birds resulting from collisions with buildings due to transparent or reflective glass and from improper lighting at the Project site would remain the same. These potential significant impacts would be reduced to a less-than-significant level by implementation of 2016 EIR Mitigation Measures **BIO-1.1, Protect Nesting Birds** and **BIO-1.2, Implement Bird-Safe Design Standards into Project Buildings and Lighting Design**.

Conflict with Local Policies or Ordinances Protecting Biological Resources

As mentioned above, the 2016 EIR assumed that all existing trees on the Project site would be removed. Additionally, the 2016 EIR identified off-site trees that could be removed due to Approved Project development. Scheme C would not include the Lick Mill Boulevard Connection and, therefore, would result in removal of fewer off-site trees than the Approved Project analyzed in the 2016 EIR.

Scheme C would comply with the City of Santa Clara General Plan Policy 5.3.1-P10, which requires developments to replace trees at a ratio of 2:1. Consistent with the 2016 EIR's assumption that all trees would be removed, the Project Developer would be required to plant at least 2,810 new trees on the

Project site. If additional off-site trees are removed for the construction of streetscape and infrastructure improvements, those trees would also be subject to a 2:1 replacement ratio. The replacement trees would be located throughout the Project site and would not be implemented on a parcel-to-parcel basis. Therefore, Scheme C impacts related to tree removal would be within the impact envelope analyzed in the 2016 EIR.

Conflict with a Habitat Conservation Plan or Natural Community Conservation Plan

Scheme C would occur within the same Project site as the Approved Project. The Project site is not located within the SCVHP permit area or any other Habitat Conservation Plan or Natural Community Conservation Plan area. Burrowing owl is the only species covered by the Santa Clara Valley Habitat Conservation Plan / Natural Communities Conservation Plan (HCP/NCCP) that has potential to occur on the Project site. However, the SCVHP area covers the Guadalupe River on the eastern boundary of the Project site and policies in the SCVHP only apply within the SCVHP permit area. Additionally, 2016 EIR Mitigation Measure **BIO-1.1, Protect Nesting Birds** would establish no-activity buffers in accordance with the recommendations in the 2012 California Department of Fish and Game Staff Report on Burrowing Owl Mitigation if a burrowing owl nest is identified during pre-construction surveys. Furthermore, 2016 EIR Mitigation Measure **BIO-2.1, Detection of Burrowing Owls** would allow the HCP/NCCP to coordinate burrowing owl surveys each year and **BIO-2.2, Mitigation for Loss of Burrowing Owl Habitat during Construction** would replace lost burrowing owl habitat at a ratio of 1:1 if burrowing owls begin nesting on developable portions of the Project site or off-site areas that remain undeveloped as phases are constructed. As stated above, implementation of 2016 EIR mitigation measures would reduce potential impacts related to special-status species to a less-than-significant level. In addition, Scheme C would not conflict with the policies in the SCVHP, and no impact would occur.

Cumulative Biological Resources Impacts

As described above, Scheme C would not result in an increase in the severity of previously identified less-than-significant-with-mitigation biological resource impacts including on migratory birds, special-status species and their habitats, wetlands and other waters as well as a less-than-significant impact related to conflicts with local policies or ordinances to protect biological resources. Therefore, Scheme C's incremental contribution would not be cumulatively considerable because Scheme C would not result in new significant impacts compared to those disclosed in the 2016 EIR.

6.9.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR and would not result in new significant impacts related to biological resources that were not identified in the 2016 EIR. Mitigation Measures **BIO-1.1, Protect Nesting Birds**; **BIO-1.2, Implement Bird-Safe Design Standards into Project Buildings and Lighting Design**; **BIO-2.1, Detection of Burrowing Owls; BIO-2.2, Mitigation for Loss of Burrowing Owl Habitat during Construction**; **BIO-3.1, Protect Western Pond Turtles; BIO-4.1, Protect Central California Coast Steelhead, Critical Habitat, and Chinook Salmon; BIO-5.1, Protect Retention Pond and Eastside Retention Drainage Swale, and San Tomas Aquino Creek and the Guadalupe River Aquatic Habitat during Construction**; **BIO-5.2, Compensate for Loss of Waters of the U.S. and State (including Wetlands)**; **BIO-C.1, Make a Fair-Share Nitrogen**

Deposition Fee Contribution to the Santa Clara Habitat Agency's Voluntary Fee Payment Program (see Appendix A) would be applicable to and would be implemented by Scheme C, and would ensure that impacts related to biological resources would be equal to, or less severe than, those previously identified and disclosed in the 2016 EIR.

6.10 Geology and Soils

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. Expose people or structures to 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; • Strong seismic ground shaking; • Seismic-related ground failure, including liquefaction; or • 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 an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;	☒	☐	☐
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), or on corrosive subsurface materials, creating substantial risks to life or property; or	☒	☐	☐
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater.	☒	☐	☐

6.10.1 2016 EIR Findings

No septic tanks or alternative wastewater systems are proposed as a part of the Approved Project; therefore, the 2016 EIR identified no impacts related to septic tanks or alternative wastewater systems.

Approved Project construction would require grading at the Project site that could expose large areas of soil (including topsoils, subsoils, and unconsolidated sediments) and refuse. The 2016 EIR found significant impacts related to soil erosion but concluded that the impact would be less-than-significant with implementation of Mitigation Measure **GEO-1.1, Detailed Grading and Erosion Control Plan**. Additionally, the 2016 EIR identified significant impacts with respect to unstable soils associated with the Approved Project including settlement, liquefaction, slope instability, expansive soils, and corrosive soils. These impacts relating to geology and soils would be less than significant with implementation of Mitigation Measures **GEO-2.1, Design-Level Geotechnical Investigation**; **GEO-2.2, Final Geotechnical Report Review**; **GEO-2.3, Construction Quality Assurance Plan**; **GEO-2.4, Final Project Design Review**; **GEO-2.5, Site Operation, Monitoring, and Maintenance Plan**; and **GEO-2.6, Review and Approval by Relevant Regulatory Agencies**, which would require preparation and review of geotechnical reports, construction quality assurance plans, final project design review, and a site operation, monitoring, and maintenance plan.

The Project site is not within a mapped Alquist-Priolo Earthquake Fault Zone, therefore, the 2016 EIR determined that impacts related to ground shaking or a seismic event were less-than-significant.

6.10.2 Project Analysis

Seismic Ground Shaking

Scheme C would occur within similar building height limits and the same Project site as the Approved Project. There have been no changes to the Project site conditions relevant to seismic stability since the preparation of the 2016 EIR. The Project site is not within an Alquist-Priolo Earthquake Fault Zone, thus fault rupture at the Project site continues to be considered as unlikely as it did in the 2016 EIR.[33] Furthermore, Scheme C buildings and improvements would be constructed in accordance with the current California Building Code (CBC), as required by the Santa Clara Municipal Code. Therefore, this impact would be less-than-significant.

Soil Erosion and Unstable Soils

Although Scheme C would introduce new light industrial uses relative to the Approved Project, no change is proposed to the overall total gross square footage being developed across the Project site. The changes to land use under Scheme C would not substantially change construction-related activities including demolition, required infrastructure improvements on- and off-site, or general building locations and amount of development. Furthermore, Scheme C would be developed on the same Project site with the same geology and soils, subject to the same or more stringent building codes. Therefore, Scheme C would have the same significant impacts identified under the 2016 EIR with respect to unstable soils including settlement, liquefaction, slope instability, expansive soils, and corrosive soils.

Additionally, all related 2016 EIR mitigation measures would apply including **GEO-1.1, Detailed Grading and Erosion Control Plan**; **GEO-2.1, Design-Level Geotechnical Investigation**; **GEO-2.2, Final Geotechnical Report Review**; **GEO-2.3, Construction Quality Assurance Plan**; **GEO-2.4, Final Project Design Review**; and **GEO-2.5, Site Operation, Monitoring, and Maintenance Plan**. Since Parcels 1 through 4 are all or partly over landfill, 2016 EIR Mitigation Measure **GEO-2.6, Review and Approval by Relevant Regulatory Agencies** would also be required. These mitigation measures would reduce impacts on geology and soils to a less-than-significant level.

Septic Tanks and Alternative Wastewater Systems

The 2016 EIR determined that the Approved Project would have no impact on septic tanks and alternative wastewater systems. Scheme C also proposes no septic tanks or alternative wastewater systems; thus, consistent with the determination reached in the 2016 EIR, Scheme C would cause no impact related to septic tanks and alternative wastewater systems.

Cumulative Geology and Soils Impacts

As described above, Scheme C would not result in an increase in the severity of previously identified less-than-significant geology and soils impacts including impacts on soil erosion potential, soil hazards, or the risk of exposure of people or structures to seismic hazards. Therefore, Scheme C's incremental

[33] California Department of Conservation, 2024. *CGS Alquist Priolo Fault Zones,* updated February 21, 2024. Available at : https://maps-cadoc.opendata.arcgis.com/datasets/29d2f0e222924896833b69ff1b6d2ca3_0/explore?location=37.357434%2C-121.959150%2C11.55. Accessed June 5, 2024.

contribution would not be cumulatively considerable because Scheme C would not result in new significant impacts compared to those disclosed in the 2016 EIR.

6.10.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR related to geology and soils. 2016 EIR Mitigation Measures **GEO-1.1, Detailed Grading and Erosion Control Plan**; **GEO-2.1, Design-Level Geotechnical Investigation**; **GEO-2.2, Final Geotechnical Report Review**; **GEO-2.3, Construction Quality Assurance Plan**; **GEO-2.4, Final Project Design Review**; **GEO-2.5, Site Operation, Monitoring, and Maintenance Plan**; and **GEO-2.6, Review and Approval by Relevant Regulatory Agencies** (see Appendix A) would apply to and be implemented by Scheme C to ensure that impacts related to geology and soils would be less-than-significant, consistent with the impacts identified and disclosed in the 2016 EIR.

6.11 Hydrology and Water Quality

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. Violate any water quality standards or WDRs;	☒	☐	☐
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);	☒	☐	☐
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on-site or off-site;	☒	☐	☐
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site;	☒	☐	☐
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;	☒	☐	☐
f. Otherwise substantially degrade water quality;	☒	☐	☐
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;	☒	☐	☐
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows;	☒	☐	☐
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam; or	☒	☐	☐
j. Contribute to inundation by seiche, tsunami, or mudflow.	☒	☐	☐

6.11.1 2016 EIR Findings

Water Quality, Stormwater, Groundwater, and Drainage Patterns

Approved Project construction would be required to comply with applicable requirements regarding surface water and groundwater. Therefore, the 2016 EIR determined that potential impacts regarding water quality objectives and standards from construction activities would be less-than-significant.

Approved Project operation would increase impervious area on the Project site, and so was determined to be likely to result in increased stormwater runoff. The Approved Project would result in a significant surface water quality impact due to the unfinalized and unique stormwater treatment measures, but these significant impacts would be reduced to less-than-significant levels with implementation of Mitigation Measure **WQ-1.1, Design and Implement Stormwater Control Measures** identified in the 2016 EIR.

The Approved Project would not result in a significant decrease in infiltration and groundwater recharge through soils and therefore would result in less-than-significant impacts with respect to groundwater supplies. The Approved Project would result in additional water demand for both surface and groundwater resources. This impact is addressed in Section 6.15, *Utilities*.

The 2016 EIR found significant hydrology and water quality impacts related to changes in existing drainage pattern of the site that would be reduced to less-than-significant levels with implementation of Mitigation Measures **WQ-3.1, Design New Bridge and Outfall Structures to Avoid Increase in 100-year Flow and Channel Erosion** and **WQ-3.2, Vegetation Removal from the Retention Basin Drainage Swale**. The 2016 EIR also found significant hydrology and water quality impacts related to the degradation of water quality that would be reduced to less-than-significant levels with implementation of Mitigation Measures **BIO-5.1, Protect Retention Pond and Drainage Swale Aquatic Habitat during Construction** and **BIO-5.2, Compensate for Wetland Loss**.

Flooding and Substantial Risks from Flooding

The 2016 EIR determined there would be no impact related to seiche, tsunami, or mudflow because there are no reservoirs adjacent to the project area and because the Project site is not within a tsunami inundation area or a designated landslide area.

The Project site is not located within a FEMA-designated 100-year flood zone, but surrounding areas and off-site areas where Approved Project development may occur are within 100-year flood zones. Specifically, the area of Tasman East Specific Plan that would accommodate the Lick Mill Boulevard Extension, the northern part of Lafayette Street, and a portion of Tasman Drive are located within a 100-year flood zone. The 2016 EIR determined that potentially significant impact from structures being located within a 100-year flood zone would be mitigated to a less-than-significant level with the implementation of Mitigation Measures **WQ-6.1, Incorporate Flood Warnings for the Lick Mill Boulevard Extension and Other Access Roads for Areas Vulnerable to Flooding**.

Additionally, the Project site is located within the potential dam failure inundation area for both the Anderson Dam and Reservoir and the Lenihan Dam/Lexington Reservoir. However, a storage restriction of about of about 45 feet below the crest of Anderson Dam has been put in place to protect the public from inundation due to dam failure. The Lenihan Dam has low potential for significant crack formation and so the 2016 EIR determined the risk of failure to be remote and, therefore, the risk associated with flooding due to levee or dam failure to be less-than-significant.

6.11.2 Project Analysis

Water Quality and Groundwater

Scheme C would occur within similar building height limits and the same Project site as the Approved Project and would result in the same overall total gross square footage being developed across the Project site. Construction of Scheme C (including demolition, required infrastructure improvements on- and off-site, and general building locations) would be similar to those analyzed in the 2016 EIR for the Approved Project Therefore, construction-related impacts related to hydrology and water quality would be the same as those identified in the 2016 EIR.

Drainage Patterns and Stormwater Runoff

Scheme C would have similar development of buildings, roadways, and open space areas as the Approved Project analyzed in the 2016 EIR, which would modify elevations on the Project site and thereby alter the on-site stormwater drainage patterns. Scheme C would include an underground storm drainage system, similar to the drainage system described under the Approved Project, that would be capable of conveying 10-year peak runoff as well as safely conveying 100-year peak flows from the Project site. Additionally, new public streets that would be developed as part of Scheme C would be designed such that the 100-year event flow would remain within the roadway limits and not extend into private property. Furthermore, final design for the stormwater management and storm drainage system would be required to meet the same criteria as the 2016 EIR (e.g. the Santa Clara County Drainage Manual watershed criteria, Santa Clara Valley Urban Runoff Pollution Prevention Program Provision C.3 post-construction stormwater criteria, Santa Clara Valley Water District levee recertification, and 100-year flood criteria) which would ensure sufficient storm drain capacity for Scheme C.

The 2016 EIR determined that significant impacts related to changes to existing drainage patterns would occur due to vegetation growth reducing the capacity of the Retention Basin drainage swale and the new bridge above the San Tomas Aquino Creek potentially impacting 100-year flood flows. These significant impacts would be reduced to a less-than-significant level by 2016 EIR Mitigation Measures **WQ-3.1, Design New Bridge and Outfall Structures to Avoid Increase in 100-year Flow and Channel Erosion** and **WQ-3.2, Vegetation Removal from the Retention Basin Drainage Swale.** Scheme C would have similar development as the Approved Project and would therefore result in the same less-than-significant impact with implementation of Mitigation Measures **WQ-3.1** and **WQ-3.2**. Additionally, the Project Developer will prepare a Stormwater Management Report including detailed hydrologic and hydraulics calculations, analysis, and conclusions for Scheme C to document the preliminary and final design of the stormwater management and storm drain system for each DAP.

Therefore, Scheme C would neither create nor contribute runoff water that would exceed the capacity of the existing stormwater drainage systems. Any potential additional sources of runoff created by Scheme C would be treated with the stormwater management measures described in 2016 EIR Mitigation Measure **WQ-1.1, Design and Implement Stormwater Control Measures,** which would reduce the impact to a less-than-significant level.

Flooding and Substantial Risks from Flooding

As mentioned above, Scheme C would occur within the same Project site as the Approved Project. Therefore, the 2016 EIR's finding of no impact related to seiche, tsunami, or mudflow would remain the same for Scheme C.

As analyzed in the 2016 EIR, the Project site is in an area with a 0.2 percent annual chance of flooding. The Project site is surrounded by areas with a 1 percent annual chance of flooding, which represent 100-year flood zones. However, on-site development would not occur in these areas. Therefore, Scheme C buildings placed within the Project site would be outside of FEMA designated 100-year flood zones. The 100-year flood zones that surround the Project site have changed slightly since the 2016 EIR. The Project site is still surrounded by areas within a 100-year flood zone including the northern portion of Lafayette Street and an area along the Guadalupe River (that would accommodate the Lick Mill Boulevard Extension), but the Tasman East Specific Plan has been partially developed and is no longer

within a 100-year flood zone.[34] The Lick Mill Boulevard connection is no longer proposed for vehicular access although this area within the 100-year flood zone could still be developed to provide emergency vehicle access. The other areas of concern (the northern part of Lafayette Street and a portion of Tasman Drive) are still present, but roadways are relatively resilient to infrequent flooding and readily repairable if damaged during large storms. Therefore, the potential significant impact would be reduced to a less-than-significant level by implementation of 2016 EIR Mitigation Measure **WQ-6.1, Incorporate Flood Warnings for the Lick Mill Boulevard Extension and Other Access Roads for Areas Vulnerable to Flooding.** This mitigation measure would still effectively reduce the impact of development, including Scheme C, on the other access roads and any new structures that would be built within a 100-year flood zone and be vulnerable to flooding.

The 2016 EIR determined that the Project site is located within the potential dam failure inundation area for both the Anderson Dam and Reservoir and the Lenihan Dam/Lexington Reservoir. In 2021, Valley Water began construction of the Anderson Dam Seismic Retrofit Project which was voter approved as part of the Safe, Clean Water and Natural Flood Protection Program and aims to rebuild the dam in compliance with today's seismic safety standards and regulations.[35] Upon completion, the retrofit of Anderson Dam would make it less susceptible to breaching. The Project site is still within the inundation area of the Lenihan Dam/Lexington Reservoir.[36] However, the 2016 EIR determined that the risk of dam failure is remote and would not present a significant risk of loss, injury, or death to people or structures due to flooding on the Project site. The conclusion for Scheme C regarding the impact of flooding due to levee or dam failure, consistent with the 2016 EIR, would be less-than-significant.

Cumulative Hydrology and Water Quality Impacts

As described above, Scheme C would not result in an increase in the severity of previously identified less-than-significant-with-mitigation hydrology and water quality impacts including on water quality, storm drain capacity, and flooding, as well as less-than-significant impacts on groundwater recharge and supplies. Therefore, Scheme C's incremental contribution would not be cumulatively considerable because Scheme C would not result in new significant impacts compared to those disclosed in the 2016 EIR.

6.11.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR, nor would it result in new significant impacts related to hydrology and water quality that were not identified in the 2016 EIR. Mitigation Measures **WQ-1.1, Design and Implement Stormwater Control Measures**; **WQ-3.1, Design New Bridge and Outfall Structures to Avoid Increase in 100-year Flow and Channel Erosion; WQ-3.2, Vegetation Removal from the Retention Basin Drainage Swale; BIO-5.1, Protect Retention Pond and Drainage Swale Aquatic Habitat during Construction; BIO-5.2, Compensate for Wetland**

[34] Federal Emergency Management Agency, 2024. *National Flood Hazard Layer Viewer.* Available at: https://www.fema.gov/flood-maps/national-flood-hazard-layer. Accessed June 6, 2024.

[35] Valley Water, 2022. *Anderson Dam Seismic Retrofit Project – Frequently Asked Questions,* January 2022. Available at: https://www.valleywater.org/project-updates/c1-anderson-dam-seismic-retrofit. Accessed June 6, 2024.

[36] Valley Water, 2019. *Lexington Reservoir and Lenihan Dam.* Available at: https://www.valleywater.org/accordion/lexington-reservoir-and-lenihan-dam. Accessed June 6, 2024.

Loss; and **WQ-6.1, Incorporate Flood Warnings for the Lick Mill Boulevard Extension and Other Access Roads for Areas Vulnerable to Flooding** (see Appendix A) would be applicable to and would be implemented by Scheme C, and would ensure that impacts related to hydrology and water quality would be less-than-significant.

6.12 Hazards and Hazardous Materials

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
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 which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (i.e., the "Cortese List") and, as a result, would create a significant hazard to the public or the environment;	☒	☐	☐
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area;	☒	☐	☐
f. For a project in the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area;	☒	☐	☐
g. Impair or physically interfere with an adopted emergency response plan or emergency evacuation plan;			
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands; or	☒	☐	☐
i. Expose people or structures to a significant risk of loss, injury, or death involving subsurface fires caused by the heating of landfill waste materials.	☒	☐	☐

6.12.1 2016 EIR Findings

The Project site is surrounded by urban development and no public airports or public use airports are found within 2 miles of the Project site. Additionally, the Project site is not mapped in or adjacent to a Very High Fire Hazard Severity Zone. Therefore, the 2016 EIR identified no impact related to private airstrips or wildland fire hazards.

The 2016 EIR determined that Approved Project operations would have a less-than-significant impact with respect to routine hazardous materials use and (as further detailed in the 2016 EIR air quality analysis) the potential hazards to the closest school (0.2 mile from the Project site) would also be less than significant. Additionally, the Approved Project would be consistent with the San José Mineta International Airport's Airport Influence Area restrictions and with the City's Local Hazards Mitigation Plan. Therefore, the Approved Project would result in less-than-significant impacts with respect to aviation hazards and emergency access.

Other hazards and hazardous materials impacts include the potential for accidental release of hazardous materials during construction; the presence of hazardous materials in areas not underlain by the landfill; landfill-related hazards including the potential significant hazard to human health from landfill gas, contaminated soils, or groundwater; and subsurface fires related to the landfill. Furthermore, project construction would disturb existing leachate collection and removal systems, which could impact groundwater quality. The 2016 EIR concluded that each of these hazards and hazardous materials impacts would be less-than-significant with implementation of Mitigation Measures **HAZ-2.1, Finalize Waste Management Plan for Construction**; **HAZ-4.1, Landfill Closure, Monitoring, and Maintenance Plans**; **HAZ-4.2, Landfill Gas Collection and Removal System**; **HAZ-4.3, Landfill Gas Protection System**; **HAZ-4.4, Landfill Gas Monitoring and Control System Maintenance**; **HAZ-4.5, Building Restrictions**; **HAZ-4.6, Landfill Hazards Disclosure**; **HAZ-5.1, Phase II Site Investigation**; **HAZ-5.2, Soil and Groundwater Management Plan**; **HAZ-5.3, Implement Measures Included in CCR Title 27, Section 21190(g); HAZ-9.1, Subsurface Fire Prevention, Detection, and Response Plan**; **HAZ-9.2, Subsurface Fire Prevention and Detection Measures**; and **HAZ-9.3 Subsurface Fire Suppression**.

6.12.2 Project Analysis

Hazardous Materials Use, Exposure, Storage, and Disposal

Although Scheme C would introduce new light industrial uses, no change is proposed to the overall total gross square footage being developed across the Project site. The increased density in Parcel 4 could result in an increased duration of the construction timeline within the City Center parcels. However, Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR and would not result in intensified construction emissions over a shorter period of time. Scheme C construction-related activity, including demolition, required infrastructure improvements on- and off-site, and general building locations and envelopes are similar to those analyzed for the Approved Project in the 2016 EIR. Scheme C construction would use similar equipment to the equipment analyzed in the 2016 EIR. Additionally, Scheme C would occur within similar building height limits and the same Project site as the Approved Project. Therefore, construction-related hazards and hazardous materials impacts would be the same as those identified in the 2016 EIR.

The land use changes under Scheme C could result in new hazardous materials on the Project site that were not analyzed in the 2016 EIR. Scheme C operation may result in warehouse and distribution facilities that may store and transport hazardous materials as products for distribution. However, products that contain hazardous materials would be contained within packaging designed to prevent leakage during storage and transportation pursuant to applicable regulations. Scheme C would include a dedicated truck route to control truck movements associated with 24-hour truck operations for warehouse/distribution facilities and to limit truck access to and from the northeast parcels to the northern access road connecting to Lafayette Street just south of Great America Way (see Figure 6, above). As mentioned in Section 6.5, *Air Quality*, Tables 6.5-3, 6.5-4, and 6.5-5 show that Scheme C's maximum project operational excess lifetime cancer risk, chronic hazard indices, and $PM_{2.5}$ concentrations are within the BAAQMD thresholds established for sensitive receptors. Furthermore, compliance with existing regulations, such as those listed in the federal Resource Conservation and Recovery Act, the Toxic Substances Control Act, and the Hazardous Material Transportation Act, would be mandatory (see 2016 EIR Section 3.11, *Hazards and Hazardous Materials*). For these reasons, the routine transport, use, or disposal of hazardous materials during Project operation would have a less-than-significant impact on the public and the environment.

Scheme C would occur within the same Project site as the Approved Project. As discussed in the 2016 EIR, Parcels 1 through 4 are all or partly located over a landfill which could potentially expose construction workers to constituents of potential concern. Implementation of 2016 EIR Mitigation Measure **HAZ-2.1, Finalize Waste Management Plan for Construction** would reduce the impact on construction workers during excavation activities to a less-than-significant level. As discussed in the 2016 EIR, construction and operation on the Project site would disturb the existing leachate collection and removal system. Implementation of 2016 EIR Mitigation Measure **HAZ-6.1, Finalize Draft Technical Memorandum: Leachate Collection and Removal System**, which would apply to Scheme C, would reduce this potential impact to a less-than-significant level.

Hazardous Materials within a Quarter Mile of a School

As mentioned above, Scheme C would occur within the same Project site as the Approved Project. The only school within 0.25 mile of the Project site is the Kathryn Hughes Elementary School, which is located about 0.2 mile to the southeast of the Project site. The 2016 EIR determined that some hazardous emissions could result from construction and operation of the Approved Project, but these emissions would be limited to the inhalation of air contaminants and would have a less-than-significant impact on schools. Scheme C's construction-related activities including demolition, infrastructure improvements on- and off-site, general building locations, and building foundations would be similar to what was anticipated for the Approved Project and analyzed in the 2016 EIR. Therefore, construction-related hazardous emissions of Scheme C would be within the impact envelope of the 2016 EIR. Although Scheme C would introduce new light industrial uses, operational toxic air contaminants would remain consistent with the findings in the 2016 EIR. Scheme C could result in additional truck trips traveling along Lafayette Street approximately 380 feet from the Kathryn Hughes Elementary School. However, as mentioned in Section 6.5, *Air Quality*, Tables 6.5-3, 6.5-4, and 6.5-5 show that Scheme C's maximum project operational excess lifetime cancer risk, chronic hazard indices, and $PM_{2.5}$ concentrations are within the BAAQMD thresholds established for schools. Furthermore, hazardous materials used during construction and operation would be managed in accordance with applicable laws and regulations. Therefore, Scheme C would have a less-than-significant impact on schools – this determination is consistent with the findings of the 2016 EIR.

Hazardous Materials Site

Parcels 1 through 4 are all or partly located over a closed landfill. The 2016 EIR determined that impacts from landfill gas and groundwater would pose a significant impact on human health. The 2016 EIR identified Mitigation Measures **HAZ-4.1, Landfill Closure, Monitoring, and Maintenance Plans; HAZ-4.2, Landfill Gas Collection and Removal System; HAZ-4.3, Landfill Gas Protection Systems; HAZ-4.4, Landfill Gas Monitoring and Control System Maintenance; HAZ-4.5, Building Restrictions;** and **HAZ-4.6 Landfill Hazards Disclosure**, which would apply to Scheme C, to reduce the impacts related to subsurface contaminants to a less-than-significant level.

Although portions of the Project site are located in areas not underlain by refuse, when the 2016 EIR was prepared, the soil and soil gases beneath these parcels had concentrations of contaminants that exceeded the Regional Water Quality Control Board's residential and/or commercial/industrial Environmental Screening Levels (ESLs). Construction activities could disturb contaminated soil and/or groundwater beneath the Project site and pose a threat to human health and the environment. Additionally, future users on the Project site could potentially be exposed to hazardous materials by direct exposure to soils or soil

gases that migrate into buildings. These factors could have a significant impact on human health and the environment. The 2016 EIR identified Mitigation Measures **HAZ-5.1, Phase II Site Investigation** and **HAZ-5.2, Soil and Groundwater Management Plan**, which would apply to Scheme C, to reduce potential hazards impacts from development on Parcel 5 and the southwest portion of Parcel 4 to a less-than-significant level.

Airport Hazards, Wildland Fires, and Emergency Access Routes

As mentioned above, Scheme C would occur within the same Project site as the Approved Project. Scheme C is not located in the vicinity of a private airstrip and is not mapped in or adjacent to a Very High Fire Hazard Severity Zone.[37] Therefore, Scheme C would cause no impact on these considerations.

The San José Mineta International Airport is located about 2.8 miles southeast of the Project site. Parcels 3, 4, and 5 on the Project site are located within an Airport Influence Area as defined by the San José Mineta International Airport's Comprehensive Land Use Plan (CLUP), adopted by the Santa Clara County Airport Land Use Commission (ALUC) on May 25, 2011.[38] Considering height restrictions established by Federal Aviation Regulations (FAR) Part 77, the 2016 EIR determined that Approved Project structures would not be expected to obstruct navigable airspace associated with the San José Mineta International Airport. Scheme C would be subject to similar building height limits assumed in the 2016 EIR, similarly would not be expected to obstruct navigable airspace, and therefore also would have a less-than-significant impact on aviation hazards at public-use airports.[39]

Emergency access and evacuation routes to and from the Project site would be available along the adjacent State Route 237, Great America Parkway, and Tasman Drive. While Scheme C would increase the amount of traffic in the Project vicinity, it would be within the impact envelope analyzed in the 2016 EIR and would not interfere with emergency response and evacuation procedures described in the adopted Multi-Jurisdictional Hazard Mitigation Plan.[40] Therefore, like the Approved Project analyzed in the 2016 EIR, Scheme C would have a less-than-significant impact on emergency response or evacuation plans.

Subsurface Fires

Parcels 1, 2, 3, and 4 are located on a closed landfill where aerobic decomposition or chemical oxidation of waste materials could result in a subsurface fire that could pose a potentially significant impact on human health and property. The 2016 EIR determined that current fire prevention measures at Parcels 1, 2, 3, and 4 would not completely protect future Project site workers, residents, and shoppers from potential landfill fires. This would result in a significant impact that would be reduced to a less-than-

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37 California Department of Forestry and Fire Protection, 2024. *Fire Hazard Severity Zone Viewer.* Available at: https://experience.arcgis.com/experience/03beab8511814e79a0e4eabf0d3e7247/. Accessed June 10, 2024.

38 Santa Clara County Airport Land Use Commission, 2011. *Comprehensive Land Use Plan Santa Clara County*, May 2011. Accessed July 18, 2024.

39 As noted in Section 4.1 of this Addendum, the proposed MCP Scheme C Supplement would revise the formulation of the height limits to permit towers on Parcel 4 of up to approximately 10-12 stories, with a maximum building height consistent with ALUC regulations and Federal Aviation hazard limits pursuant to FAA Federal Aviation Regulations, FAR Part 77 criteria. Although this revision would remove the 219 feet above msl height limit on Parcel 4, the revised height limits would remain consistent with applicable General Plan Policy 5.10.5-P30 and General Plan Policy 5.10.5-P33 that require compatibility with the Airport Land Use Compatibility Plan and Federal Aviation Administration Federal Aviation Regulations, FAR Par 77 criteria hazard height limits at San José Mineta International Airport, respectively.

40 County of Santa Clara Office of Emergency Management, 2017. *Multi-Jurisdictional Hazard Mitigation Plan.* Available at: https://emergencymanagement.sccgov.org/multi-jurisdictional-hazard-mitigation-plan-mjhmp. Accessed June 10, 2024.

significant level by implementation of 2016 EIR Mitigation Measure **HAZ-9.1, Subsurface Fire Prevention, Detection, and Response Plan; HAZ-9.2, Subsurface Fire Prevention and Detection Measures;** and **HAZ-9.3, Subsurface Fire Suppression**. As noted above, Scheme C would occur within the same Project site as the Approved Project, and therefore, these mitigation measures would apply to Scheme C and, as such, implementation of Scheme C would have a less-than-significant impact related to subsurface fires.

Cumulative Hazards and Hazardous Materials Impacts

As described above, Scheme C would not result in an increase in the severity of previously identified less-than-significant-with-mitigation hazards and hazardous materials impacts including on soil and groundwater contamination and landfill siting hazards as well as less-than-significant impacts on routine hazardous materials use, hazardous materials in building components, aviation hazards, and impairment of emergency access or emergency plans. Therefore, Scheme C's incremental contribution would not be cumulatively considerable because Scheme C would not result in new significant impacts compared to those disclosed in the 2016 EIR.

6.12.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR, nor would it result in new significant impacts related to hazards and hazardous materials that were not identified in the 2016 EIR. Mitigation Measures **HAZ-2.1, Finalize Waste Management Plan for Construction**; **HAZ-4.1, Landfill Closure, Monitoring, and Maintenance Plans**; **HAZ-4.2, Landfill Gas Collection and Removal System**; **HAZ-4.3, Landfill Gas Protection System**; **HAZ-4.4, Landfill Gas Monitoring and Control System Maintenance**; **HAZ-4.5, Building Restrictions**; **HAZ-4.6, Landfill Hazards Disclosure**; **HAZ-5.1, Phase II Site Investigation**; **HAZ-5.2, Soil and Groundwater Management Plan**; **HAZ-5.3, Implement Measures Included in CCR Title 27, Section 21190(g); HAZ-9.1, Subsurface Fire Prevention, Detection, and Response Plan**; **HAZ-9.2, Subsurface Fire Prevention and Detection Measures**; and **HAZ-9.3 Subsurface Fire Suppression** (see Appendix A) would be applicable to and implemented by Scheme C, and would ensure that impacts related to hazards and hazardous materials would remain at a less-than-significant level.

6.13 Population and Housing

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure);	☒	☐	☐
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere; or	☒	☐	☐
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere.	☒	☐	☐

6.13.1 2016 EIR Findings

No residential buildings would be demolished as a part of the Approved Project, which the 2016 EIR determined would cause no impact related to the displacement of housing. At the time the 2016 EIR was published, it was estimated that the Approved Project would displace approximately 510 on- and off-site workers from existing commercial operations to be demolished. However, these workers could be accommodated within the Approved Project or existing surrounding office, industrial, and warehouse sites, resulting in a determination that the impact would be less-than-significant.

The Approved Project would result in a new on-site population including construction workers, residents, employees, and guests. The construction workforce would be primarily met within the existing and future labor market in the City and County, so workers from outside this area would not be expected to relocate permanently. The 2016 EIR found that new housing demand from Approved Project employees during operation would result in a significant impact as the demand would represent just over 20 percent of the City's projected household growth between 2015 and 2040. However, all development that would require discretionary review that could be induced by the Approved Project would be subject to subsequent CEQA review where lead agencies would be required to identify environmental impacts and feasible mitigation measures prior to project approval. The 2016 EIR specified that significance conclusions associated with project and cumulative population growth were provided in Impact LU-1 and Impact C-LU-1 (see 2016 EIR Section 3.1, *Land Use and Planning*). The 2016 EIR identified Mitigation Measure **LU-1.1, Increase Residential Density in the City's General Plan**, which directed the City to explore permitting higher residential densities and residential land uses in existing non-residential areas in the City's General Plan (see Section 6.2, *Land Use and Planning*). The 2016 EIR determined this measure would not reduce the effect to a less-than-significant level and the impact would remain significant and unavoidable.

6.13.2 Project Analysis

Population Growth

Scheme C would introduce new light industrial uses on Parcels 1 and 2 resulting in an increased density of approved uses on Parcel 4 to offset the reduction in intensity on Parcels 1 and 2. The 2016 EIR states that total population growth generated by the Approved Project consists of: (1) growth from the Project's proposed residential units generating an on-site residential population, and (2) growth from the Project's

proposed office buildings, retail, entertainment facilities, and hotel rooms generating an employment population.

To more accurately compare Scheme C with the impact of the Approved Project analyzed under the 2016 EIR, this analysis relies on the population generation rates (persons per household, workers per household, percent of workers living in the City), and projected population and housing growth numbers established in the 2016 EIR.

Population Growth from Proposed Housing. Scheme C would result in the construction of up to 1,680 residential units on the Project site, which would generate approximately 4,030 new residents based on a multi-family residential household generation rate of 2.4 persons per household, as established by the City in the 2016 EIR.[41] The Increased Housing Alternative, which was ultimately adopted as the Approved Project in the MCP, assumed 1,680 residential units and 4,030 residents. Therefore, the residential growth associated with Scheme C would be comparable to the Approved Project and within the impact envelope analyzed in the 2016 EIR for population growth.

Employment Growth. Although Scheme C would introduce new light industrial uses, no change is proposed to the overall total gross square footage being developed across the Project site. The conversion of office use, which has an employee generation rate of 270 gsf per employee, to industrial use, which has an employee generation rate of 331 gsf per employee, under Scheme C would result in comparable estimated employment growth (see **Table 6.13-1** below).[42,43] Scheme C would result in an estimated 23,561 net new employees across the Project site which is comparable to the estimated 24,760 net new employees assumed in the 2016 EIR for Project Scheme A as well as the 23,620 net new employees under the IHA of the Approved Project and slightly lower than the 28,720 net new employees under Approved Project Scheme B. Therefore, the increase in employees associated with Scheme C would be comparable to the Approved Project and within the impact envelope analyzed in the 2016 EIR for employment growth.

Residential Population Growth from Employment. As mentioned above, Scheme C is estimated to generate approximately 23,561 employees, which is slightly less than what was analyzed in the 2016 EIR for the Approved Project. Therefore, projections for citywide and regional housing demand and indirect population growth associated with employment growth under Scheme C would be within in the impact envelope analyzed in the 2016 EIR for residential population growth from employment.

The 2016 EIR determined that significance conclusions associated with population growth were provided in the analysis of land use and concluded that a significant and unavoidable impact would remain after implementation of Mitigation Measure **LU-1.1, Increase Residential Density in the City's General Plan**. As demonstrated above, Scheme C land uses and associated population and employment growth are within the maximum build-out assumed for the Approved Project and thus within the impact envelope analyzed in the 2016 EIR. Therefore, Scheme C would result in the same significant impacts related to

[41] 1,680 proposed residential units * 2.4 persons per household = approximately 4,030 new residents

[42] Ramboll, 2024. *CEQA Air Quality and Greenhouse Gas Analysis for the Modification of the Related Santa Clara Project.* August 1, 2024.

[43] University of California Transportation Center, 2017. *Industrial Land and Jobs Study for the San Francisco Bay Area*. Available at: https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/final-reports/ca17-2792-finalreport-a11y.pdf.

population and housing but would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR.

TABLE 6.13-1
SCHEME C POPULATION GROWTH

Land Use	Generation Rate (used in the 2016 EIR)	Gross Square Footage/ Units Scheme C	Projected Residents/ Employees Scheme C
Total Project Residents	*2.4 persons/household*	*1,680 units*	*4,030 residents*
Employees			
Retail	450 gsf/employee	800,000 gsf	1,778 employees
Office	270 gsf/employee	4,517,400 gsf	16,731 employees
Hotel	840 gsf/employee	567,000/700 rooms	675 employees
Residential	1 employee/32 units	1,680 units	53 employees
Industrial	331 gsf/employee	1,600,000 gsf	4,834 employees
Total Project Employees			*24,071 employees*
Existing On-site Employees			-35 employees
Existing Off-site Employees	270 gsf/employee		-475 employees
Total Net New Employees			*23,561 net new employees*
Total Net New Population			**27,591**

NOTES: gsf = gross square feet

a. Rounded to the nearest tens.
b. Retail includes food/beverage and entertainment employees.
c. Existing on-site employees include the Santa Clara Golf & Tennis Club, BMX track, and Fire Station 10.
d. Existing off-site employees include the three office buildings to be demolished at 2101, 2111, and 2121 Tasman Drive.

SOURCE: Fehr & Peers 2015; Ramboll, 2024. CEQA Air Quality and Greenhouse Gas Analysis for the Modification of the Related Santa Clara Project. August 1, 2024.

TABLE 6.13-2
COMPARISON OF POPULATION GROWTH BY SCHEME

Scheme	Scheme A	IHA	Scheme B	Scheme C
Residents				
Total Project Residents	3,270 residents	4,030 residents	480 residents	4,030 residents
Employees				
Total Net New Employees	24,760 net new employees	23,610 net new employees	28,720 net new employees	23,561 net new employees
Total Net New Population	**28,030**	**27,640**	**29,200**	**27,591**

Displacement

Scheme C would occur within the same Project site as the Approved Project. The Project site does not contain any housing units and thus would not displace any residents. Furthermore, the Project site contains most of the same existing uses as the 2016 EIR (the Santa Clara P.A.L. Track, Ameresco Methane Plant, Eastside Retention Basin, and surface parking lots). The prior golf course and Fire Station 10 have since closed and the fire station was demolished. Therefore, potential impacts on the displacement of existing housing would be the same as those identified in the 2016 EIR.

Cumulative Population and Housing Impacts

As described above, Scheme C would not result in an increase in the severity of previously identified less-than-significant population and housing impacts including on displacement of people. Therefore, Scheme C's incremental contribution would not be cumulatively considerable because Scheme C would not result in new significant impacts compared to those disclosed in the 2016 EIR.

6.13.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR, nor would it result in new significant impacts related to population and housing that were not identified in the 2016 EIR. The Approved Project, with Scheme C, would result in less than significant impacts related to the displacement of people and no mitigation measures are warranted. Mitigation Measure **LU-1.1, Increase Residential Density in the City's General Plan** (see Appendix A) would be applicable to and would be implemented for Scheme C. See Section 6.2, *Land Use and Planning*, for conclusions regarding Population Growth.

6.14 Public Services and Recreation

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. 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 fire protection, police protection, schools, parks, or other public services and facilities;	☒	☐	☐
b. Increase the use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or	☒	☐	☐
c. Include recreational facilities or require the construction or expansion of recreational facilities which might have a substantial adverse physical effect on the environment.	☒	☐	☐

6.14.1 2016 EIR Findings

Public Services

The 2016 EIR found less-than-significant impacts related to fire protection, police protection, and schools; no mitigation measures were warranted. The Approved Project would result in an increase in Santa Clara Fire Department (SCFD) and Santa Clara Police Department (SCPD) service calls and a corresponding incremental need for additional staffing, equipment, and facilities to maintain the City's response time goals and staffing ratios. The Approved Project includes the potential relocation of the existing Fire Station 10 to one of three possible sites, and the 2016 EIR analyzed the construction of a replacement fire station of the same size as the existing Fire Station 10 either on-site or at the Convention Center. Any proposed replacement facility may need to be larger than the existing facility to accommodate the additional resources (firefighters, an additional aerial ladder truck, a hazardous materials response vehicle) necessary to maintain satisfactory service levels. However, the 2016 EIR found that the expansion of a replacement fire station beyond the existing size analyzed in the 2016 EIR would be minimal in relation to the construction of the overall Approved Project and would not be expected to generate significant or new construction-related impacts beyond what was analyzed in the 2016 EIR for the Approved Project. Therefore, the Approved Project would not result in substantial adverse physical environmental impacts associated with the provision of other new or physically altered fire and emergency service facilities in order to maintain acceptable service ratios, response times, or other performance objectives. Although additional SCFD and SCPD staff may be required, the Approved Project would not trigger the need for the construction of a new police facility or the expansion of the existing one.

The 2016 EIR concluded that the Approved Project would generate additional students that would attend the Santa Clara Unified School District (SCUSD). The Approved Project would be subject to SB 50 School Impact Fees (established by the Leroy F. Greene School Facilities Act of 1998). Section 65996 of the California Government Code explains that payment of school impact fees established by SB 50 is

deemed to constitute full and complete mitigation for school impacts from development that may be required from a developer by any State or local agency. Although the payment of the school impact fee could contribute toward the construction or expansion of schools, any actual construction or expansion of school facilities would not be a direct result of the Approved Project and would be required to undergo a separate CEQA review process. Therefore, the impact of the Approved Project related to schools was found to be less than significant.

Additionally, the increase in permanent residents generated by the Approved Project would decrease the existing book-volumes-per-capita and the library-items-per-capita ratios. However, the additional demand for book volumes and library items would not necessitate the construction of a new library facility. Therefore, the 2016 EIR determined the Approved Project would result in a less-than-significant impact associated with the provision of new or physically altered library facilities in order to maintain acceptable service ratios or other performance objectives.

Parks and Recreation

The 2016 EIR identified three types of impacts on parks and recreational facilities that could result from the Approved Project. The Approved Project would result in the elimination of existing on-site active recreational facilities, which would increase the use of other existing recreational facilities in the area to accommodate these users. Additionally, the Approved Project would contribute to an increased demand for parkland due to new permanent residents and employees generated by the Approved Project. Lastly, the Approved Project would result in the combined impacts of eliminating existing on-site active recreational facilities, including the golf and tennis facilities and bike motocross track, plus the recreational demand from new residents and employees (see Section 2.1.1, *2024 Existing Site Conditions and Surrounding Context*). The 2016 EIR determined the increase in use of other existing recreational facilities in the area as well as the generation of new park and recreational users would not result in substantial deterioration of the facilities or result in the need to construct new recreational facilities. Furthermore, recreational space would be included within the Project site as a part of the Approved Project, plus fees paid by the Project Developer would be used by the City to acquire and/or develop new parkland and/or amenities or facilities which would mitigate any environmental impacts from the development of those facilities to a less-than-significant level. The 2016 EIR determined that the combination of the conversion of the on-site recreational facilities into a new mixed-use development, and the increased demand caused by new permanent residents and employees generated by the Approved Project, would result in a less-than-significant impact related to parks and recreation.

6.14.2 Project Analysis

Public Services

Although Scheme C would introduce new light industrial uses, no change is proposed to the overall total gross square footage being developed across the Project site. The increased density in Parcel 4 could result in an increased duration of the construction timeline within the City Center parcels. However, Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR and would not result in intensified construction emissions over a shorter period of time. Scheme C construction-related activity, including demolition, required infrastructure improvements on- and off-site, and general building locations and envelopes are similar to those analyzed for the Approved Project in the 2016 EIR. Scheme C construction would use similar equipment to the equipment analyzed

in the 2016 EIR. Additionally, Scheme C would occur within similar building height limits and the same Project site as the Approved Project. Therefore, construction-related public services and recreation impacts would be the same as those identified in the 2016 EIR.

Similar to the Approved Project, Scheme C would result in substantial new development that would degrade the existing SCFD and SCPD service ratios. As shown in Section 6.13, *Population and Housing*, above, new permanent residents generated by Scheme C would be the same as the population growth assumed for the Approved Project (Increased Housing Alternative) and analyzed in the 2016 EIR. Furthermore, the conversion of office use to industrial use under Scheme C would result in a comparable estimated employment growth. Therefore, Scheme C's population increase would have substantially the same effect on existing SCFD and SCPD service ratios as the Approved Project analyzed in the 2016 EIR.

The demolition, temporary relocation, and replacement of Fire Station 10 was analyzed in the 2016 EIR for the development of Parcel 4. The 2016 EIR stated that while Fire Station 10 is being replaced, Fire Station 10 personnel would be temporarily relocated. Fire Station 8 reopened in February 2020 and Fire Station 10 closed in March 2020. While Fire Station 10 is closed, personnel and equipment from Fire State 10 have relocated to Fire Station 8, and will respond from Fire Station 8; thus, the temporary relocation will not result in a suspension of service and significant environmental impacts would not result.[44]

As stated in the 2016 EIR, the increase of on-site employees and residents would require additional firefighters to be assigned to Fire Station 10 to maintain appropriate service and response times. The replacement fire station may need to be larger than the existing Fire Station 10 to accommodate additional fire personnel. However, the potential expansion of the existing fire station to a size greater than what was analyzed would be minimal in relation to the construction of the overall Approved Project and would not be expected to generate significant or new construction-related impacts beyond those analyzed throughout the 2016 EIR.

Similarly, Scheme C would require additional officers to maintain appropriate police service and response times. However, similar to the Approved Project, Scheme C would not trigger the need for the construction of a new police facility or the expansion of an existing one. Therefore, Scheme C would not be expected to generate significant or new construction-related impacts beyond those analyzed throughout the 2016 EIR.

No change is proposed to the overall total gross square footage being developed across the Project site under Scheme C. Although the land use on Parcels 1 and 2 would change from office to light industrial, all project buildings would be designed to comply with the most up-to-date building and fire codes and no additional fire facilities beyond what was analyzed would be required for each land use type. Therefore, although Scheme C would increase the service population of the SCFD and SFPD, this potential staffing increase and potential increase in size of the replacement fire station would be within the impact envelope assumed, analyzed, and addressed in the 2016 EIR.

[44] City of Santa Clara, 2020. *Fire Station 10 to close by March 1, 2020.* Available at: https://www.santaclaraca.gov/our-city/departments-a-f/fire-department/fire-station-10-to-close-by-march-1-2020#:~:text=Santa%20Clara%20Fire%20Station%208,replacing%20and%20relocating%20the%20station. Accessed June 6, 2024.

Schools

At the time of the 2016 EIR, the SCUSD consisted of 16 elementary schools, three middle schools, two high schools, one K-8 school, four alternative schools, and one adult education school that served all of Santa Clara, the eastern portion of Sunnyvale, the northern portion of San José, all of Alviso, the northeastern portion of Cupertino, and the western portion of Milpitas. The 2016 EIR determined that in 2014, both the SCUSD as a whole and the individual schools serving the Project site were over enrolled. Considering SCUSD school sites that were closed at the time, planned school openings and reopenings, new school facilities planned in neighboring school districts, and the requirements of SB 50, the 2016 EIR determined that the Approved Project would not trigger the need for expansion or construction of new schools and would result in a less-than-significant impact.

Since 2016, SCUSD has opened two new elementary schools (Agnew Elementary School and Central Park Elementary School), one middle school (Huerta Middle School), and one high school (Kathleen MacDonald High School). As of 2023-2024, SCUSD facilities have a capacity of 18,704 and a student enrollment of 14,221 therefore having an excess capacity of 4,483.[45] As shown in Section 6.13, *Population and Housing*, above, Scheme C residential development would be comparable with the residential increase assumed for the Approved Project (Increased Housing Alternative) and analyzed in the 2016 EIR. As such, the students generated by new residential development would also be comparable with the Approved Project and within the impact envelope analyzed in the 2016 EIR. Furthermore, Scheme C would be subject to the requirements of SB 50 and would result in a less-than-significant impact on school facilities, consistent with the findings from the 2016 EIR.

Parks and Recreation

As discussed in the 2016 EIR, implementation of the Approved Project could result in three types of impacts on parks and recreational facilities: (1) impacts associated with eliminating existing on-site active recreational facilities; (2) impacts associated with recreational demand from new residents and employees on existing off-site park and recreational facilities; and (3) the combined impacts associated with eliminating existing on-site active recreational facilities and impacts associated with recreational demand from new residents and employees.

Elimination of Existing On-Site Active Recreational Facilities. The 2016 EIR determined that closure of on-site recreational facilities would not result in substantial physical deterioration of other existing recreational facilities or result in the need to construct new recreational facilities. Scheme C would occur within the same Project site as the Approved Project and, although most of the on-site recreational facilities are no longer active, Scheme C would result in their elimination. Therefore, Scheme C would result in the same less-than-significant impacts relating to the elimination of existing on-site recreational facilities as the Approved Project analyzed in the 2016 EIR.

Increased Use of Off-site Parks. As shown in Section 6.13, *Population and Housing*, above, the number of new permanent residents generated by Scheme C would be comparable to the population growth analyzed in the 2016 EIR (Increased Housing Alternative). As shown in Section 6.13, *Population and*

[45] Santa Clara Unified School District, 2024. Residential and Commercial/Industrial Development School Fee Justification Study, March 28, 2024. Available at: https://resources.finalsite.net/images/v1714077505/santaclarausdorg/jiv7lvbzaig9gs5lzr4p/SCUSDLevel1DevelopmentFeeJustificationStudy2024.pdf. Accessed June 6, 2024.

Housing, Table 6.13-1 Scheme C would result in approximately 23,561 net new employees compared to the estimated 24,760 net new employees under Approved Project Scheme A, 23,620 net new employees under the IHA of the Approved Project, and 28,720 net new employees under Approved Project Scheme B. Therefore, Scheme C would result in a comparable increase in the use of surrounding park and recreational facilities. The impacts would be the same as those identified in the 2016 EIR.

Recreational Facilities due to New Residents/Employees. Scheme C would not alter the Approved Project's open space concept to develop an integrated network of shared outdoor spaces and sustainable landscapes including active plazas, creational areas, and green spaces linked through planned coherent streetscapes. Overall, the Scheme C land use program would include approximately 90 acres of open space, which is substantially similar to the Approved Project analyzed in the 2016 EIR.[46] The Approved Project's residential-induced requirement for dedicated park and recreation land would not change under Scheme C. Specifically, Scheme C would be required to provide parkland dedication and/or fee in-lieu of dedication at a ratio of 2.53 acres per 1,000 residents – the same ratio as the Approved Project.[47] As mentioned in the 2016 EIR page 3.13-21, the actual parkland and facilities provided along with the final approved in-lieu fee amount required would be determined during the approval process and that payment of in-lieu fees represents full and complete mitigation for parkland impacts due to new development.

Total Project Impact on Parks and Recreational Facilities. As with the Approved Project, Scheme C would result in a combined impact of eliminating existing on-site recreational facilities and increasing recreational demand from new residents and employees. As described above, Scheme C would result in less-than-significant impacts related to parks and recreation, consistent with the findings of the 2016 EIR.

Libraries

Similar to the Approved Project, Scheme C would result in substantial new development that would degrade existing Santa Clara City Library service ratios and performance objectives. As shown in Section 6.13, *Population and Housing*, the number of new permanent residents generated by Scheme C would be comparable with the population increase assumed for the Approved Project analyzed in the 2016 EIR. Therefore, Scheme C would result in a comparable increase in the use of library facilities in the City as the Approved Project and would be within the impact envelope assumed and analyzed in the 2016 EIR. As such, Scheme C would result in a less-than-significant impact on libraries, consistent with the findings of the 2016 EIR.

Cumulative Impacts on Public Services and Recreation

See section 2.2.2 above regarding Cumulative Impacts. The addition of housing units within Tasman East would result in unanticipated growth that could place additional burdens on public services. However, as described above, Scheme C would not result in an increase in the severity of previously identified less than significant public service impacts, and there is no evidence that new public services facilities would be required as a result of the cumulative scenario. Surrounding development would be required to pay school impact fees, which are based on the amount of proposed residential and commercial space, and would be required to comply with Santa Clara City Code Chapter 17.35, which requires new residential development to provide adequate park and recreational land and/or pay a fee in-lieu of dedication to

[46] *Master Community Plan Scheme C Supplement* dated June 2025.

[47] (4,030 new residents * 2.53 acres per 1,000 residents) / 1,000 = 10.2 acres

mitigate the impacts of new growth. This process and fee payment would ensure that citywide growth would be reasonably accommodated within the cumulative context. Therefore, surrounding developments are not expected to result in a significant cumulative impact and Scheme C would result in a less than cumulatively considerable contribution to this cumulative public services and recreation impact.

6.14.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR, nor would it result in new significant impacts related to public services and recreation that were not identified in the 2016 EIR. Since the impacts of Scheme C would be less than significant, no mitigation measures are warranted.

6.15 Utilities and Service Systems

Would the project:	Equal or Less Severity of Impact Previously Identified in the 2016 EIR	Substantial Increase in Severity of Previously Identified Significant Impact in the 2016 EIR	New Significant Impact
a. Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board;	☒	☐	☐
b. Require or result in construction of new water or wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects;	☒	☐	☐
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects;	☒	☐	☐
d. Have insufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed;	☒	☐	☐
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments;	☒	☐	☐
f. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs;	☒	☐	☐
g. Violate applicable federal, state, and local statutes and regulations related to solid waste; or	☒	☐	☐
h. Result in wasteful, inefficient, or unnecessary energy use.	☒	☐	☐

6.15.1 2016 EIR Findings

Water, Wastewater, and Stormwater

The Water Supply Assessment (WSA) prepared for the Approved Project demonstrated that sufficient water supplies exist to accommodate the Approved Project's total water demand and cumulative water demands. Therefore, the 2016 EIR determined that these impacts would be less than significant.

The 2016 EIR found significant impacts related to the Approved Project's required water delivery and stormwater drainage systems. Construction of public water mains over landfills is prohibited, unless the California State Water Resources Control Board grants the City a waiver, and thus both on- and off-site improvements would be required. Similarly, the Approved Project's proposed stormwater drainage system could require both on- and off-site improvements. Any impacts associated with construction of these improvements would be mitigated to a less-than-significant level by implementation of all relevant mitigation measures included for construction within the 2016 EIR.[48]

[48] Mitigation measures included for construction within the 2016 EIR include **AES-1.1: Imported Material Storage; TRA-18.1: Construction Management; AQ-2.1: Utilize Clean Diesel-Powered Equipment during Construction to Control Construction-Related Reactive Organic Gas (ROG) and Oxides of Nitrogen (NOX) Emissions; AQ-2.2: Use Modern Fleet for On-Road Material Delivery and Haul Trucks during Construction; AQ-2.3: Implement Bay Area Air Quality Management District (BAAQMD) Additional Construction Mitigation Measures to Reduce Construction-Related Dust and Exhaust Emissions; AQ-2.4: Offset NOX Emissions Generated during Construction that Are above**

The 2016 EIR concluded that the Approved Project would not exceed wastewater treatment requirements, require the construction of new wastewater treatment facilities or the expansion of existing treatment facilities, or exceed the San José/Santa Clara Regional Wastewater Facility capacity to serve the Approved Project's expected demand and existing entitlements. However, the Approved Project would contribute to a cumulative wastewater pumping capacity deficit that would require additional off-site wastewater delivery systems to meet this demand. The 2016 EIR determined this to be a significant cumulative impact that would be mitigated to a less-than-significant level through the Project Developer's fair-share contribution to the City for necessary upgrades.

Solid Waste

The 2016 EIR determined that sufficient permitted landfill capacity exists to accommodate the Approved Project's solid waste disposal needs and therefore there would be a less-than-significant impact related to solid waste and landfill capacity. The 2016 EIR determined the Approved Project would have a considerable contribution to existing cumulative impacts related to landfill capacity resulting in a significant and unavoidable cumulative impact. The 2016 EIR identified no mitigation measures to partially mitigate this impact.

Energy

The 2016 EIR determined that any potential for the Approved Project to use energy in a wasteful, inefficient, or unnecessary manner would be mitigated to a less-than-significant level through implementation of mitigation measures related to greenhouse gas emissions and transportation in addition to all relevant mitigation measures included for construction within the 2016 EIR.[49]

The 2016 EIR determined that the Approved Project would contribute to the existing cumulative secondary environmental impacts by potentially requiring the construction of new electricity generation facilities and transmission lines, increasing demand for new renewable energy facilities, and increasing demand for transportation fuels which can result in the need for additional facilities to produce, process, and transport such fuels. Furthermore, both the electricity and gas needed may be generated out of State

BAAQMD NOX Average Daily Emission Threshold; AQ-6.1: Assess Construction Diesel Particulate Matter (DPM) Emissions Potential Prior to Construction, Utilize Clean Diesel-Powered Equipment, Filtration Systems, and/or other Measures as Necessary to Reduce Cancer Risks Associated with DPM during Construction; GHG-1.1: Utilize Alternative Fuels during Construction; NOI-1.1: Prepare and Implement a Construction Noise Control Plan to Reduce Construction Noise at Adjacent Land Uses; NOI-2.1: Restrict Pile Driving; CR-1.1: Conduct Extended Phase I (XPI) Archaeological Investigations within the Project Site near Recorded Resources and within an Area of Archaeological Sensitivity; CR-1.2: Provide Archaeological Monitoring of the Project Site When in Native Soil; CR-2.1: Paleontological Resource Mitigation Plan; CR-2.2: Paleontological Resource Monitoring; CR-2.3: Paleontological Resource Reporting; CR-3.1: Stop work if human remains are encountered during ground-disturbing activities; BIO-1.1: Protect Nesting Birds; BIO-2.2: Mitigation for Loss of Burrowing Owl Habitat during Construction; BIO-3.1: Protect Western Pond Turtles; BIO-4.1: Protect Central California Coast Steelhead, Critical Habitat, and Chinook Salmon; BIO-5.1: Protect Retention Pond and Eastside Retention Drainage Swale, and San Tomas Aquino Creek and the Guadalupe River Aquatic Habitat during Construction; BIO-5.2: Compensate for Loss of Waters of the U.S. and State (including Wetlands); GEO-1.1: Detailed Grading and Erosion Control Plan; GEO-2.1: Design-Level Geotechnical Investigation;GEO-2.2: Final Geotechnical Report Review;GEO-2.3: Construction Quality Assurance Plan; GEO-2.4: Final Project Design Review; WQ-1.1: Design and Implement Stormwater Control Measures; WQ-3.2: Vegetation Removal from the Retention Basin Drainage Swale; WQ-6.1: Incorporate Flood Warnings for the Lick Mill Boulevard Extension and Other Access Roads for Areas Vulnerable to Flooding; HAZ-4.5: Building Restrictions. HAZ-2.1: Finalize Waste Management Plan for Construction; HAZ-5.1: Phase II Site Investigation; HAZ-5.2: Soil and Groundwater Management Plan; HAZ-5.3: Implement Measures Included in CCR Title 27, Section 21190(g); and **HAZ-9.1: Subsurface Fire Prevention, Detection, and Response Plan**.

[49] Ibid.

which makes it not reasonable to predict where new supply sources would be located or evaluate the environmental consequences from construction and operation of such facilities. Therefore, the 2016 EIR determined that there was a significant and unavoidable cumulative impact. The 2016 EIR did not identify new mitigation measures to address this cumulative impact. Scheme C would result in the same significant and unavoidable cumulative impact.

6.15.2 Project Analysis

The discussion of Scheme C's utilities analysis is informed by *Chapter 8C, Infrastructure Overview – Scheme C Variant*, of the *Master Community Plan Scheme C Supplement* dated June 2025.

Water Demand and Infrastructure

Scheme C would replace the office land uses proposed under the Approved Project on Parcels 1 and 2 with approximately 1.6 million sf of light industrial use. The proposed land use changes would decrease the expected water demand for the Project site. As shown in **Table 6.15-1**, Scheme C would demand approximately 1,411 acre-feet per year (AFY), which would be less than what was estimated for the Approved Project. Therefore, the Scheme C estimated water demand is within the impact envelope analyzed in the 2016 EIR and would not result in a new or more severe significant impact.

TABLE 6.15-1
COMPARISON OF WATER DEMAND (AFY)

Parcel	Approved Project (Scheme B 2016 EIR)	Scheme C (af/yr)
Parcel 1	259.9	98.8
Parcel 2	434.8	127.0
Parcel 3[a]	192.9	0
Parcel 4	800.2	997.5
Parcel 5	233.0	187.3
Total	**1920.8**	**1410.6**

NOTE: AFY = acre-feet per year

a. Water demand estimates for the Approved Project, on page 3.14-20 of the 2016 Draft EIR, assume development on Parcel 3. Although the Approved Project incorporates the EOS Variant, in which the City retains Parcel 3 park use, the proposed land uses and square footage of development are the same and thus the total estimated water demand remains valid for the Approved Project. SOURCES: ICF International, 2015. *City Place Santa Clara Project Draft Environmental Impact Report.* October 2015. Prepared for the City of Santa Clara. Available at: https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/135/3649.

Langan, 2024. *Related Santa Clara Master Community Plan Scheme C Supplement, Chapter 8C, Infrastructure Overview – Scheme C Variant*. June 2025.

Consistent with the findings of the 2016 EIR, Scheme C would require the expansion of the City's water delivery system at both on-site and some off-site locations but would not require expansion of the recycled water system off-site. The 2016 EIR determined that construction may result in significant impacts, but these would be reduced to less-than-significant by relevant construction-related mitigation measures.[50] These mitigation measures would apply to Scheme C and, as such, Scheme C would result in

[50] Ibid.

no new and no more severe significant impact with respect to water demand and infrastructure than was disclosed in the 2016 EIR.

Wastewater Generation and Infrastructure

As mentioned above, Scheme C would introduce new light industrial uses on Parcels 1 and 2 and increase the density of approved uses on the southwestern area. As shown in **Table 6.15-2**, implementation of Scheme C would result in a total wastewater generation of approximately 1.19 million gallons per day (GPD), which would be less than what was estimated for the Approved Project. Therefore, the wastewater generated by Scheme C is within the impact envelope analyzed in the 2016 EIR and would result in no new and no more severe significant impact than was disclosed in the 2016 EIR.

TABLE 6.15-2
COMPARISON OF WASTEWATER GENERATION BY SCHEME (GPD)

	Approved Project (Scheme B 2016 EIR)	Scheme C
Total	**1,749,138**	**1,188,960**

NOTE: GPD = gallons per day

SOURCES: ICF International, 2015. *City Place Santa Clara Project Draft Environmental Impact Report.* October 2015. Prepared for the City of Santa Clara. Available at: https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/135/3649.

Langan, 2025. *Related Santa Clara Master Community Plan Scheme C Supplement, Chapter 8C, Infrastructure Overview – Scheme C Variant*. June 2025.

The area of ground disturbance required to construct the necessary on- and off-site improvements to the wastewater system is similar for Scheme C as the Approved Project. Accordingly, the same construction mitigation measures would apply to Scheme C and no new and no more severe significant impact with respect to wastewater infrastructure would result than was disclosed in the 2016 EIR.

Like the Approved Project, Scheme C would contribute to an existing significant cumulative impact related to the need for additional off-site wastewater delivery systems due to future insufficient pumping capacity at the Rabello and Northside Pump Stations. This significant impact was identified for the Approved Project in the 2016 EIR and would be reduced to a less-than-significant impact through implementation of Mitigation Measure **UT-3.1, Make a Fair-Share Contribution to Upgrading the Rabello and Northside Pump Station's System Capacity**. This mitigation measure would apply to Scheme C and, with its implementation, Scheme C would result in no new and no more severe a significant impact than was disclosed in the 2016 EIR.

Stormwater

The 2016 EIR determined that the Approved Project would be required to comply with San Francisco Bay MS4 Permit Provision C.3, Stormwater Technical Guidance, because it would involve the creation/ replacement of more than10,000 square feet of impervious surface. Similarly, Scheme C would result in more than 10,000 square feet of impervious surface and would therefore be required to comply with San Francisco Bay MS4 Permit Provision C.3, Stormwater Technical Guidance. Additionally, as discussed in Section 6.11, *Hydrology and Water Quality,* the 2016 EIR determined that the drainage system has sufficient storage and pumping capacity to convey 100-year peak flows safely. No substantial change has occurred in this respect since certification of the 2016 EIR. Furthermore, Scheme C would be subject to

the same regulations as the Approved Project including treating any potential additional sources of runoff created by Scheme C with the stormwater management measures described in Mitigation Measure **WQ-1.1, Design and Implement Stormwater Control Measures**.

The 2016 EIR determined that, in some circumstances, the Approved Project would result in significant stormwater impacts during construction and that construction-related mitigation measures would reduce these impacts to a less-than-significant level. As mentioned above, the increased density in Parcel 4 could result in an increased duration of the construction timeline in the City Center parcels. However, Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR and would not result in intensified construction emissions over a shorter period of time. Scheme C construction-related activity, including demolition, required infrastructure improvements on- and off-site, and general building locations and envelopes are similar to those analyzed for the Approved Project in the 2016 EIR. Scheme C construction would use similar equipment to the equipment analyzed in the 2016 EIR. All relevant construction-related mitigation measures would apply to Scheme C and, as such, implementation of Scheme C would result in no new and no more severe significant impact than was disclosed in the 2016 EIR.[51]

Solid Waste

Although Scheme C would introduce new light industrial uses, no change is proposed to the overall total gross square footage being developed across the Project site. The increased density in Parcel 4 could result in an increased duration of the construction timeline in the City Center parcels. However, Scheme C would require an overall duration of construction activity similar to the timeline analyzed in the 2016 EIR and would not result in intensified construction emissions over a shorter period of time. Scheme C construction-related activity, including demolition, required infrastructure improvements on- and off-site, and general building locations and envelopes are similar to those analyzed for the Approved Project in the 2016 EIR. Scheme C construction would use similar equipment to the equipment analyzed in the 2016 EIR. Therefore, construction-related solid waste impacts would be the same as those identified in the 2016 EIR.

The Approved Project includes office use on Parcels 1 and 2. Scheme C would replace 1.6 million sf of office use on these parcels with approximately 1.6 million sf of light industrial use and would increase the density of the approved uses in the southwestern area of the Project site. As mentioned in Section 6.13, *Population and Housing*, office use has an employee generation rate of 270 gsf per employee and industrial use has an employee generation rate of 331 gsf per employee. Using these generation rates, 1.6 million sf of office use would result in 5,926 employees while 1.6 million sf of industrial use would result in 4,834 employees.

The City maintains agreements with multiple non-exclusive franchise (NEF) haulers to provide garbage, recycling, organics recycling, and debris bin services to businesses at properties zoned for industrial use. The current agreement is set to expire on December 31, 2026. NEF haulers are required to provide a bundled service that includes garbage, recycling, and organics collection via a three-bin system to customers subscribing to two cubic yards of solid waste per week or by ensuring the waste is processed at a Materials Recovery Facility that has a recovery rate greater than or equal to 50 percent. Businesses

[51] Ibid.

located on parcels zoned for industrial use are free to choose a hauler that best suits their needs from the City's NEF hauler list. At this time, it is currently unknown which hauler would serve the Project site.[52]

CalRecycle provides solid waste generation rates for commercial, industrial, institutional, residential, and service establishments. For each land use type, CalRecycle publishes a range of possible generation rates extracted from various sources.[53] Using the employment estimates mentioned above and an average of the published solid waste generation rates per land use type, 1.6 million sf of office use would result in approximately 7,343.3 tons of solid waste per year without any diversion and 1.6 million sf of industrial use would result in 5,485.7 tons of solid waste per year without any diversion.[54] Additionally, CalRecycle publishes the *Business Group Waste Stream Calculator,* which uses the statewide average data for business waste streams to estimate solid waste based on employee counts. Using this calculator, 1.6 million sf of industrial use would generate approximately 7,248 total tons of solid waste per year under the manufacturing (all other) category. Scheme C would generate approximately 14,470 total tons of solid waste per year under the durable wholesale and trucking category. The office use categories of services (management, administrative, support, and social) and services (professional, technical, and financial) would generate 8,540 and 13,680 total tons per year, respectively.[55] Considering the variety of sources and results, it is reasonable to conclude that the solid waste generated by 1.6 million sf of industrial use (estimated between 7,248 and 14,470 tons per year) is comparable to the solid waste generated by 1.6 million sf of office use (estimated between 8,540 and 13,680 tons per year). Therefore, the solid waste generated by Scheme C would be within the assumptions of the Approved Project.

The 2016 EIR determined that the Newby Island Landfill had sufficient permitted capacity to accommodate the Approved Project's solid waste disposal needs. The City had a disposal agreement with the Newby Island Landfill as well as other landfills located outside of the County through 2024. According to the City's General Plan EIR, a prerequisite for new residential development under Phase III (2025-2035) of the General Plan requires the City to identify adequate solid waste disposal sites after 2024, which is the end of the contract between the City and Newby Island Landfill.[56] At the time of the 2016 EIR, the Newby Island Landfill was in the process of seeking authorization from the City of San José to expand the permitted capacity. The expansion has since been approved and allowed for an increase in capacity of approximately 15.12 million cubic yards (cy).[57] As of 2020, the most recent year for which there is available data, the Newby Island Landfill had a maximum permitted capacity of 57,500,000 cy and a

[52] City of Santa Clara, 2024. *Commercial and Industrial Garbage & Recycling.* Available at: https://www.santaclaraca.gov/our-city/departments-g-z/public-works/environmental-programs/commercial-and-industrial-garbage-recycling. Accessed June 20, 2024.

[53] CalRecycle. *Estimated Solid Waste Generation Rates.* Available at: https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates. Accessed August 8, 2024.

[54] Ibid. Solid waste was calculated for each relevant generation rate provided by CalRecycle and then the average of these totals was used. However, outliers that drastically skewed the data were removed. For office use, the January 1996 source with a solid waste generation rate of 100 lb/gross sq ft/day was not used. For industrial use, the April 1993 source with a solid waste generation rate of 62.5 lb/1000 sq ft/day, the January 1996 source with a solid waste generation rate of 3 lb/employee/1000 sq ft/day, and the August 1992 source with a solid waste generation rate of 41.64 lb/employee/day were not used.

[55] CalRecycle. *Business Group Waste Stream Calculator*. Available at: https://www2.calrecycle.ca.gov/WasteCharacterization/BusinessGroupCalculator. Accessed August 8, 2024.

[56] City of Santa Clara, 2024. *General Plan*. Available at: https://www.santaclaraca.gov/our-city/departments-a-f/community-development/planning-division/general-plan. Accessed August 8, 2024.

[57] City of San José, 2016. *Newby Island Sanitary Landfill/The Recycler*. Available at: https://www.sanjoseca.gov/your-government/departments-offices/planning-building-code-enforcement/planning-division/environmental-planning/environmental-review/completed-eirs/newby-island-sanitary-landfill-the-recycler. Accessed August 8, 2024.

remaining capacity of 16,400,000 cy.[58] As with the Approved Project, the solid waste generated by Scheme C could be accommodated at an expanded Newby Island Landfill or an alternative landfill.

As mentioned above, the 2016 EIR determined the Approved Project would result in a considerable contribution to existing cumulative impacts related to landfill capacity resulting in a significant and unavoidable cumulative impact. Although Scheme C would be served by a landfill with sufficient capacity, the City still has no specific plan for disposing of solid waste beyond 2024. Given the uncertainties concerning the location of solid waste disposal beyond 2024, Scheme C would result in the same significant and unavoidable cumulative impact as the Approved Project.

Energy

For the analysis of energy consumption, the 2016 EIR applied a "common sense" threshold, whereby a project's energy usage would be considered "wasteful, inefficient, and unnecessary" if the project were to violate Title 24 of the California Code of Regulations, would be inconsistent with the energy-related measures in the City of Santa Clara's 2013 Climate Action Plan, or would otherwise consume a substantially greater amount of energy, in either the construction or operational phase, than similar projects of a similar size that did not incorporate the Project's design features and mitigation. This analysis employs the same metrics to judge significance for Scheme C.

Scheme C's construction-related activities, including demolition, required infrastructure improvements on- and off-site, and general building locations, would be substantially similar to the Approved Project's construction-related activities analyzed in the 2016 EIR. Therefore, Scheme C's construction-related impacts related to energy would be the same as those identified for the Approved Project in the 2016 EIR.

Scheme C would include all the energy use efficiencies described for the Approved Project in the 2016 EIR and so also would exceed the energy efficiency required by California's Title 24 standards. The 2019 updates to Title 24 now require solar photovoltaics and energy storage for air conditioned space in offices, warehouses, and mixed-use buildings where one or more of these building types constitute at least 80 percent of the floor area. (Cal. Code Regs., tit. 24, Part 6, § 140.10(a). These new requirements will further reduce energy demand from what was analyzed for the Approved Project in the 2016 EIR.

With respect to energy demand from operations, Scheme C would source at least 50 percent of its energy use from renewable energy, consistent with Mitigation Measure **GHG-1.2**, and would therefore decarbonize electricity production and decrease electricity demand. Additionally, as stated in the proposed MCP Scheme C Supplement, Scheme C would design office buildings against an Energy Use Intensity (EUI) target of 61.50 thousand British thermal units (kBtu) per square foot per year, which is expected to result in lower energy use for office space due to the use of less natural gas. Further, air quality models indicate that the default energy demand per square foot is higher for office uses than for manufacturing land uses or warehouse land uses comprised of 50 percent refrigeration facilities.[59,60]

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[58] CalRecycle, 2020. *SWIS Facility/Site Activity Details Newby Island Sanitary Landfill (43-AN-003).* Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1362?siteID=3388. August 8, 2024.

[59] California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod®), Version 2022.1.1.26. Appendix G-28 Climate Zone 1.

[60] As described in the MCP Scheme C Supplement, refrigerated warehouse space would be permitted up to a maximum of 50 percent of the building square footage on Parcels 1 and 2.

Therefore, Scheme C's operational impacts related to energy demand would be similar to those identified for the Approved Project in the 2016 EIR.

Scheme C would result in the same impact related to 2013 Climate Action Plan consistency as the Approved Project (see Appendix C). In addition, Scheme C's energy demand would require implementation of mitigation measures related to greenhouse gas emissions and transportation as well as all relevant mitigation measures included for construction within the 2016 EIR.[61] As a result, Scheme C would not result in inefficient, wasteful, or unnecessary consumption of energy and its impacts would be mitigated to a less-than-significant level consistent with the findings of the 2016 EIR.

As discussed above, the 2016 EIR determined that the Approved Project would contribute cumulative energy demands that could result in significant and unavoidable secondary environmental impacts related to long-term energy generation and transmission. The cumulative energy demand would potentially require the construction of new electricity generation facilities and transmission lines, new renewable energy facilities, or increase demand for transportation fuels, which can result in the need for additional facilities to produce, process, and transport such fuels. The 2016 EIR determined it was not reasonable to predict where the new supply sources would be located or evaluate environmental consequences from construction and operation of such facilities, and therefore concluded that the Approved Project would have a considerable contribution to cumulative energy demands that would be significant and unavoidable. Because these same conditions would also exist under Scheme C, Scheme C would also be expected to result in a significant and unavoidable cumulative impact.

Cumulative Utilities and Service Systems Impacts

As described above, Scheme C would not result in an increase in the severity of previously identified less-than-significant-with-mitigation utilities and service system impacts including wastewater treatment facilities as well as less-than-significant impacts on stormwater treatment facilities. Therefore, Scheme C's incremental contribution would not be cumulatively considerable because Scheme C would not result in new significant impacts compared to those disclosed in the 2016 EIR.

6.15.3 Conclusion

Based on an examination of the analysis, findings, and conclusions of the 2016 EIR, implementation of Scheme C would cause no new significant environmental effects and no substantial increase in the severity of previously identified significant effects than were disclosed in the 2016 EIR, nor would it result in new significant impacts related to utilities and service systems that were not identified in the 2016 EIR. Mitigation Measure **UT-3.1, Make a Fair-Share Contribution to Upgrading the Rabello and Northside Pump Station's System Capacity** as well as Mitigation Measures **AQ-2.1, Utilize Clean Diesel-Powered Equipment during Construction to Control Construction-Related Reactive Organic Gas (ROG) and Oxides of Nitrogen (NOX) Emissions**; **AQ-2.2, Use Modern Fleet for On-Road Material Delivery and Haul Trucks during Construction, AQ-2.4, Offset NOX Emissions Generated during Construction that Are above BAAQMD NOX Average Daily Emission Threshold, GHG-1.1, Utilize Alternative Fuels during Construction**; **GHG-1.2, Operational GHG Emissions Reduction Measures, TRA-1.1, Vehicle Trip Reduction with Transportation Demand Management (TDM)** (see Appendix A) would be applicable to and would be implemented by Scheme C.

[61] See footnote 58.

These mitigation measures would ensure that impacts related to utilities and service systems would be equal to, or less severe than, those disclosed in the 2016 EIR.

Appendix A

2025 Mitigation Monitoring and Reporting Program

RELATED SANTA CLARA PROJECT PLANNING/CEQA FILE # PLN2014-10554/CEQ2014-01180

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
Land Use				
LU-1.1: Increase Residential Density in the City's General Plan. During the next General Plan Update cycle, the City shall explore permitting higher residential densities in the City as well as allowing residential land uses in existing non-residential areas. Where feasible, the City shall target strategic areas of the City, specifically those closest to major employment and transit hubs, for new residential land uses and/or increased residential density. In order to maintain projected 2035 jobs/ housing ratios, the City shall explore permitting up to 11,000 units.	City to explore permitting higher residential densities in the City.	Director of Planning and Inspection	Director of Planning and Inspection	During the next General Plan Update cycle
NOI-1.3: Prepare and Implement a Noise Control Plan to Reduce Interior Noise at Sensitive Land Uses.				
Aesthetics				
AES-1.1: Imported Material Storage. Soils from other parcels that are imported to Parcel 2 shall be stored in areas that are not within view of the Guadalupe River Trail. Alternatively, imported soils within view of the Guadalupe River Trail shall be distributed across Parcel 2 at a depth of 2 feet or less.	Project Developer to provide applicable provisions of construction contracts to the City incorporating requirement.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to issuance of grading and building permits
AES-1.2: Early Implementation of Master Community Plan Landscaping Plan for Parcels 1 and 2. The existing golf course trees along the eastern edge of Parcel 2 shall be retained (leaving the view from the Guadalupe River trail unchanged) until such time as development on the eastern portion of Parcel 2 would necessitate their removal. The Project Developer shall implement the Landscaping Plan, as presented in the Master Community Plan, at the earliest feasible period, given the constraints and pacing of the development. Prior to planting and installation, the Landscaping Plan shall be submitted to the Planning Director for approval.	Project Developer to submit a landscape plan to replace removed trees to the City for review and approval.	Project Developer/ Project Contractor	City Director of Planning & Inspection	Prior to issuance of grading and building permits for Parcel 2
AES-2.1: Installation of Low-Profile Lighting. The Project Developer shall install low-profile, low-intensity lighting directed downward to minimize light and glare.	Project Developer to submit catalog cuts of the fixtures proposed to the City demonstrating compliance.	Project Developer	City Planning & Inspection Division	Concurrent with Architectural Review submittal, which may be included within Development Area Plans
AES-2.2: Installation of Shielded Fixtures. The Project Developer shall use shielded fixtures for street lighting and park lighting to minimize spill onto the public right-of-way and glare produced by the lighting on the Project site.	Project Developer to submit catalog cuts of the fixtures proposed to the City demonstrating compliance.	Project Developer	City Planning & Inspection Division	Concurrent with Architectural Review submittal, which may be included within Development Area Plans

[1] Where the timing of an action is specified as taking place before a permit is issued, that action must be taken with respect to the action underlying the permit, except where otherwise specifically noted.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
AES-2.3: Treat Reflective Surfaces. The Project Developer shall ensure application of low-emissivity glass at exterior surfaces of the proposed structures for the purpose of reducing reflection of visible light that strikes the glass exterior and reduction in the amount of interior light being emitted through the glass.	Project Developer to provide evidence that low-emissivity glass at exterior surfaces will be used.	Project Developer	City Planning & Inspection Division	Concurrent with Architectural Review submittal, which may be included within Development Area Plans
AES-2.4: Provide Obstruction for Glare from Vehicle Headlights along designated truck routes and in the Proposed Garages. The Project Developer shall ensure that through the architectural design of the parking garages and through or in combination with landscaping or physical screening at the parking structures and along designated truck routes and area surrounding truck loading docks, glare from vehicle headlights shall be screened from off-site viewers.	Project Developer to provide garage sections to City showing how vehicle headlights in the proposed garages will be obstructed.	Project Developer	City Planning & Inspection Division	Concurrent with Architectural Review submittal, which may be included within Development Area Plans
Transportation				
TRA-1.1: Vehicle Trip Reduction with Transportation Demand Management (TDM). The Project Developer shall prepare and implement a TDM Plan approved by the Santa Clara Director of Community Development. The TDM Plan shall include trip reduction measures necessary to achieve an overall target of reducing Project office- generated daily traffic by a minimum of 4 percent and peak-hour traffic by a minimum of 10 percent, with an overall target of reducing Project residential-generated daily traffic by a minimum of 2 percent and peak-hour traffic by a minimum of 4 percent, compared to the traffic estimates used in this EIR. The TDM Plan shall also include and implement TDM Best Management Practices (BMPs) for the retail uses. The TDM Plan shall include measures to reduce the amount of vehicle traffic generated by City Place by shifting employees, customers, and residents from driving alone to using transit, carpooling, cycling, and walking modes through TDM measures, strategies, incentives, and policies. The TDM obligation in this measure is to apply for the lifetime of the Project. The TDM Plan may specify a phased implementation approach that provides initially for implementation of the TDM measures that are appropriate for multi-tenant offices (e.g., measures aimed at increased transit use and carpooling), which are expected to be developed during the first three phases of development, and then provide for TDM measures that are appropriate for large corporate office tenants in the remaining phases (such as shuttles). The Santa Clara Director of Community Development shall have the authority and discretion to permit modification of the measures provided that the modifications continue to achieve the overall trip reduction objective and/or the Santa Clara Director of Community Development is satisfied that all feasible TDM measures are being implemented if the overall trip reduction objective is not being met. Specific requirements as to the TDM Plan, its contents, target reductions, monitoring and remedial action are as follows: A. *Vehicle Trip Thresholds.* Vehicle trip reductions will be measured through counts of vehicles that enter and exit the site and by comparison of the results to established trip thresholds. As part of the annual TDM Plan monitoring process, as described below, vehicle trip generation estimates, based on the land uses and their sizes, will be prepared by a transportation professional funded by the Transportation Management Association described below, and working under the direction of the City, who will use the trip generation rates and internalization and public transit ridership reductions used in the EIR transportation analysis. The TDM reduction targets will be applied to create the thresholds. The estimates and thresholds will be reviewed and approved by the City's Traffic Engineer. While no thresholds are established for retail uses because it is difficult to enforce trip reductions for retail customers, this measure requires implementation of TDM BMPs for retail portions of the Project, as described below.	Project Developer to submit a TDM Plan to the City for each Development Area Plan and prior to each subsequent Development Area Plan, submit a TDM Plan reviewed by the third party. Submit an annual report documenting compliance with the TDM Plan.	Project Developer/ TMA	Department of Public Works Director of Planning and Inspection	Prior to the issuance of a certificate of occupancy for first building under each DAP for TDM Plan (or expansion of TDM Plan) associated with development under the DAP; obtain approval prior to certificate of occupancy; undertakes annual reporting, surveys and revisions to TDM Plan in accordance with mitigation measure.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
B. Management Association (TMA) is a non-profit, organization that provides transportation services in a particular area, such as a commercial district, medical center or office park, controlled by members that are building owners or tenants in that area. A TMA shall be formed to oversee and coordinate implementation of the TDM measures to be implemented for the Project, including coordinating activities of the various employers and tenants. The TDM Plan shall identify the vehicle trip-reducing measures and strategies to be provided and implemented directly by the Project Developer, those to be implemented directly by the TMA and those to be implemented directly by individual tenants/employers, and any to be implemented directly by the City. The TDM Plan shall describe the roles and responsibilities of the TMA and its members, which shall be codified in a binding agreement with the City of Santa Clara, approved by the Director of Community Development, and recorded with the County of Santa Clara Clerk Recorder.				
C. *Office TDM Measures.* TDM measures that target office employees shall be described in detail in the TDM Plan, including information regarding the direct implementing party (e.g., Project Developer, TMA, City, and tenants and employers.), The following TDM measures shall be considered for inclusion in the TDM Plan for some or all portions of the office development, to the extent feasible and appropriate, either as part of an initial TDM Plan or as options for enhanced or remedial measures if trip reduction targets are not being met: • On-site Support Facilities: shuttle bus stops with shelters, bicycle paths and lanes, pedestrian paths linking buildings and transit stations, priority parking for carpools and vanpools • In-building Support Facilities: showers and changing rooms, bicycle storage rooms and bicycle racks, and bicycle repair stands, cafes, and fitness centers • Private shuttles for both long distance commute and last-mile service from nearby public transit • Ridesharing options for long distance commuters such as carpool and vanpool matching services • Guaranteed ride home services for commuters who carpool, take transit, or bicycle to work • Financial incentives such as pre-tax benefits for transit and bicycle expenses (e.g., Commuter Check) or subsidized transit passes (e.g., Commuter Checks, Clipper Cards or VTA EcoPass) for all employees • Additional support services for employees who use transit or rideshare, such as flexible work hours • A website and marketing program to disseminate information on commute options; access to TMA management services • A TDM information packet to be provided to all new City Place employees upon commencement of work at City Place and, the benefits of alternative commute methods stressed during new employee orientation programs • Incentives for employees to live in locations well served by transit or shuttles • Bike share pods to enable trips on-site and to nearby destinations to be made by bicycle • Car share services with cars on-site for use by employees (or others) who use alternative modes to travel to the site but need a car to run an errand, travel to a meeting, etc.				

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]

- Multi-passenger demand responsive ride services for local employees that are competitive with drive alone including transportation network/ride-sharing services such as Uber Pool, Lyft Line and Chariot on-demand and crowd-sourced bus services
- Yet-to-be developed new services, programs, strategies and emerging technologies
- Congestion cordon (boundary) pricing scheme[2]
- Parking management strategies such as paid parking and unbundled parking to restrict the parking supply[3]

D. *Residential TDM Measures*. TDM measures that target residents shall be described in the TDM Plan, including information regarding the direct implementing party (e.g., Project Developer, TMA, City, tenants and employers). The following TDM measures shall be considered for inclusion in the TDM Plan for some or all portions of the residential development, to the extent feasible and appropriate, either as part of an initial TDM Plan or as options for enhanced or remedial measures if trip reduction targets are not being met:

- Bicycle infrastructure improvements
- Bicycle parking room or lockers
- Bicycle riders guide
- On-site bicycle repair facilities
- Financial subsidies for residents who commute by carpool, transit, walking or bicycle, such as VTA EcoPasses
- A website and marketing program to disseminate information on commute options; access to TMA management services
- Rideshare matching services
- On-site shuttle services, shuttle bus stops with shelters, pedestrians path linking buildings and transit stations
- Bus stops located near buildings
- Pedestrian-oriented site design
- Congestion cordon (boundary) pricing scheme
- Parking management strategies such as paid parking and unbundled parking to restrict the parking supply.

E. *Retail Site Design BMPs.* BMPs that target retail employees and customers shall be described in the TDM Plan, including information regarding the direct implementing party (e.g., Project Developer, TMA, City, tenants and employers). The following BMPs shall be considered for inclusion in the TDM Plan for some or all portions of the retail development, to the extent feasible and appropriate:

- Bicycle infrastructure improvements
- Bicycle rider encouragement program

[2] Cordon pricing would entail charging vehicles a fee as they enter an area. The fees would be higher during congested periods. This type of strategy is most effective with limited access points and requires a high quality transit system to accommodate travel by a non-automobile mode.

[3] These parking management strategies can be paired with a residential permit parking program (RPPP) to ensure that Project residents seeking parking do not park in nearby neighborhoods.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
• Bicycle parking, showers and lockers • Bicycle riders guide • On-site bicycle repair facilities • Pre-tax commuter incentives • Rideshare matching services • On-site shuttle services, shuttle bus stops with shelters, pedestrians path linking buildings and transit stations • A website and marketing program to disseminate information on commute options; access to TMA management services • Bus stop locations near building entrances • Pedestrian-oriented site design • Congestion cordon (boundary) pricing scheme F. *Monitoring and Reporting.* The TDM Plan shall be monitored annually to gauge its effectiveness in meeting the thresholds; while general guidelines are provided here, the monitoring and reporting process shall be explained in detail in the TDM Plan. A transportation professional working at the City's direction and pursuant to a scope of work approved by the City's Traffic Engineer shall conduct traffic counts annually using mechanical counters or other devices approved by the City of Santa Clara to measure the daily and peak-hour entering and exiting vehicle volumes for a 72-hour period, Tuesday through Thursday. The counts shall include traffic counts at all City Place driveways, traffic counts at the driveways to office parking locations, and traffic counts at the driveways to residential parking locations. The counts shall be conducted when schools are in session and during non-holiday weeks with fair weather. The individual driveway volumes will be summed to provide the total site traffic volumes. The volumes at the driveways to the office and residential parking locations will be summed to provide the office- and residential-generated traffic volumes. The volumes will be compared to the trip thresholds to determine whether the reduction in vehicle trips is being met. The TMA will assist with the monitoring activities that will be conducted. In addition to monitoring driveway volumes, a survey will be developed by the transportation professional and administered in coordination with the TMA and individual office employers to determine actual mode splits for employees. The survey will also gather information on usage of individual TDM Plan components as well as gauge employee perception of the overall TDM Plan After an initial survey is conducted, subsequent surveys shall be conducted in years where the previous year's annual report has concluded that trip thresholds and trip reduction targets are not being met. The results of the annual vehicle counts and survey (if one is conducted that year) will be reported in writing by the transportation professional to the Santa Clara Director of Community Development. The report will include descriptions of the TDM measures in place, highlighting new or modified measures, summarize the results of the counts, summarize the results of the employee survey (if one is conducted that year), and conclude whether the trip thresholds and trip reduction targets are being met. The report (as well as any remedial action taken as a result) will be summarized in an annual informational report to the Planning Commission on the progress of TDM efforts throughout the City of Santa Clara.				

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
G. *Remedial Action*. If TDM Plan monitoring results show that the trip reduction targets are not being met, the TDM Plan shall be updated to identify replacement and/or additional feasible TDM measures to be implemented. The updated TDM Plan shall be submitted to the City and approved by the Santa Clara Director of Community Development. The updated TDM Plan shall also identify other TDM measures that were considered but determined to be infeasible or ineffective. The TMA shall oversee and coordinate the implementation of the feasible additional TDM measures and continue to explore methods of making other potential TDM measures feasible.				
TRA-1.2: Intersection Improvements. The intersection improvements and off- setting mitigation measures summarized in Table 3.3-20 shall be implemented, and Project Developer shall pay the fair-share contributions for the mitigation measures summarized in Table 3.3-20. The intent of the table is to identify, based on a preliminary feasibility determination, physically feasible intersection mitigation measures (e.g., lane additions) that increase the intersection's vehicle carrying capacity and reduce vehicle delay while fully mitigating the impacts. As described below, feasible mitigation measures that fully mitigate the impacts were identified at some locations. However, at other locations, measures that provide only partial mitigation were identified because of physical constraints. Although these mitigation measures do not fully address the impact, they do help reduce the severity of the impact. For intersections where there are no feasible physical improvements, off-setting mitigation measures were investigated. These measures would provide improvements to other modes of travel, thereby increasing the capacity of the transportation system. At some intersections no feasible improvement or off-setting mitigation measures were identified. The four potential entries are: • Full Mitigation: At the affected intersection, a physical modification to the intersection that would fully mitigate the impact was identified. This could be accomplished by adding vehicle lanes or upgrading an intersection to an interchange or "fly-over." These improvements would reduce vehicle delays and fully mitigate Project impacts at several intersections by allowing the intersections to operate at acceptable levels, with delays that would be lower than they would be under no-project conditions, or with less than a 4-second increase in critical delay at intersections that operate at unacceptable levels. • Partial Mitigation: At the affected intersection, a physical modification to the intersection that would partially mitigate the impact was identified. The proposed measure mitigates the impact during one peak hour but not the other or reduces the delay but not enough to mitigate the impact. • Off-setting Mitigation: In the North San José Deficiency Plan area, off-setting local street network, transit, bicycle, or pedestrian improvements were identified to accommodate future travel growth but not directly mitigate the intersection with the identified impact. • No Feasible Mitigation: No physical improvements or off-setting mitigation measures were identified, typically because of physical limitations, costs, and/or right-of-way constraints. Some of the intersection improvements would require right-of-way (ROW) acquisition. A preliminary review of ROW constraints was done by viewing aerial photography as a part of the mitigation measure feasibility assessment. An intersection was identified as having ROW constraints if the mitigation measure would include widening the roadway or relocating aboveground utilities. (Use of the center median and "pork-chop" islands was not considered as roadway widening.) If the removal of bicycle facilities was required, the ROW required was defined as "possible." If the City makes a final determination that a portion or all of an improvement is not feasible because ROW cannot be	Implement intersection improvements included in Table 3.3-20 of the Draft EIR and pay fair share contribution in accordance with Exhibit MMRP-1.	Project Developer (as noted in Table 3.3-20 of Draft EIR)	Department of Public Works	In accordance with Exhibit MMRP-1

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
acquired or for other reasons, the improvement, or infeasible portion, shall not be implemented and, if none of the improvement is feasible, and no off-setting mitigation measure is identified, that intersection shall be considered to have "no feasible mitigation." The Project Developer's responsibility is included in Table 3-3.20, which indicates if the Project Developer would be wholly or partially responsible for the mitigation measure. • As seen in the table, "100 percent" indicates that the cost and construction of the proposed mitigation measure is the full responsibility of the Project Developer. These are discrete mitigation measures that either fully or partially mitigate significant Project impacts. • "Percent of total traffic" indicates that the Project Developer shall pay a fair-share contribution to the proposed mitigation measure, which is typically a larger transportation improvement, such as an expressway interchange, that has been identified in an adopted plan. Twelve of the intersections are on the County expressway system and are identified in the County's Expressway Plan to be upgraded to an interchange or "fly-over." The Project Developer shall pay its fair share toward these interchange upgrades per agreements between Santa Clara County and the City of Santa Clara. • "Pay the North San José fee or fair-share contribution of alternative or off-setting mitigation" is identified for affected intersections in the North San José area. There are two options for these locations. The Project Developer can pay the North San José fee or a fair-share contribution for the mitigation measure or off-setting mitigation measure based on the Project's percent contribution of added traffic at the intersection. • Where there is no feasible mitigation measure, no fair share is identified (0 percent). The City-preferred mitigation measure is identified where there is more than one mitigation option.				
TRA-1.3: Prepare and Implement a Multimodal Improvement Plan. The Project Developer shall fund the preparation of (including CEQA review for) a Multimodal Improvement Plan (MIP) addressing at least the Congestion Management Program (CMP) intersections within the City of Santa Clara that are forecasted to operate at Level of Service F with the Project, either on a project level or cumulative basis. City shall reimburse the Project Developer for any cost of preparation of the MIP that exceeds the Project Developer's fair share of such cost. Such MIP shall be prepared in accordance with the guidelines and regulations of the Valley Transportation Authority (VTA) and shall be adopted by the City Council for submission to the VTA for consideration and approval no later than one year after approval of the Project. Once the MIP is adopted by the VTA, it shall be implemented in accordance with its terms and commensurate with the phasing of the development that its measures are intended to offset.	Provide requisite funding for City preparation of the MIP as City Costs under Development Agreement. City to prepare and approve MIP for submission to VTA, and implement MIP once it is approved.	Project Developer/City	Department of Public Works and Division of Planning and Inspection	City to submit approved MIP to VTA within 1 year of project approval, and implement MIP according with its terms**.**
TRA-2.1: Traffic Signal Installation. Install a traffic signal at Intersection 109, Liberty Street/Taylor Street once the traffic volumes meet the warrant requirements. The intersection of Liberty Street/ Taylor Street is located in San José; the installation of a traffic signal would need to be approved by the City of San José.	Project Developer shall provide funding for traffic signal installation at Liberty Street/Taylor Street in the City of San José and submit evidence of compliance to City.	Project Developer	Department of Public Works	Prior to issuance of building permits for the building that triggers improvement in accordance with Exhibit MMRP-1.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
TRA-2.2: Traffic Signal Installation. Install a traffic signal at Intersection 114, Calle Del Sol/Calle De Luna, once the traffic volumes meet the warrant requirements.	Project Developer to install a traffic signal at Intersection 114, Calle Del Sol/Calle De Luna.	Project Developer	Department of Public Works	Prior to issuance of certificate of occupancy for the building that triggers improvement in accordance with Exhibit MMRP-1.
TRA-3.1: Freeway Segment Improvements. The Project Developer will make a voluntary contribution toward the VTP's 2040 Express Lane Projects (VTP 2040 project numbers H2, H3, H4, H5, H6, H7, and H15) and Countywide Freeway Traffic Operation System and Ramp Metering Improvements (VTP 2040 project number S83). These VTP 2040 projects (H2, H3, H4, H5, H6, H7, H15, and S83), once fully funded and constructed, will enhance travel choices for Project travelers and make more efficient use of the transportation network.	Project Developer shall pay per trip fee to the City in accordance with Exhibit MMRP-1.	Project Developer	Department of Public Works	Prior to issuance of certificate of occupancy for a new or expanded structure.
TRA-1a.1: Intersection Improvements for Existing with Project Phases 1, 2, and 3. The intersection improvements and off-setting mitigation measures summarized in Table 3.3-26 shall be implemented, and Project Developer shall pay the fair-share contributions for the mitigation measures summarized in Table 3.3-26. (This table also includes impacts and mitigation measures for the full Project for comparison purposes.) These improvements will reduce vehicle delays and fully mitigate Project impacts at several intersections by allowing the intersections to operate at acceptable levels, with delays that would be lower than they would be under no-project conditions, or with less than a 4-second increase in critical delay at intersections that operate at unacceptable levels. Table 3.3-26 also contains physical improvements for select intersections that will reduce the delay, but not to a level that mitigates the impact. Some of the intersection improvements would require ROW acquisition. A preliminary review of ROW constraints was done by viewing aerial photography as a part of the mitigation measure feasibility assessment. An intersection was identified as having ROW constraints if the mitigation measure would include widening the roadway or relocating aboveground utilities. (Use of the center median and "pork-chop" islands was not considered as roadway widening.) If the removal of bicycle facilities was required, the ROW required was defined as "possible." If the City makes a final determination that a portion or all of an improvement is not feasible because ROW cannot be acquired or for other reasons, the improvement, or infeasible portion, shall not be implemented and, if none of the improvement is feasible, and no off-setting mitigation measure is identified, that intersection shall be considered to have "no feasible mitigation."	See TRA-1.2	Project Developer	Department of Public Works	In accordance with Exhibit MMRP-1
TRA-5.1: Transportation Design Review. The site plans for Parcels 1 and 2 will undergo a design review by the City to ensure that City design standards are adhered to prior to construction. This review shall include an on-site intersection analysis prior to development plan approval. The on-site analysis shall include an intersection operations analysis to develop intersection traffic controls and lane geometries that meet City of Santa Clara traffic standards. These parcels shall also be reviewed for: • Inbound queuing at parking facilities to ensure that queues do not block public streets and local streets • Emergency vehicle access and circulation • Vehicular circulation	Project Developer to prepare site plans for Parcels 1 and 2 to be submitted to the City to ensure that City street design and traffic standards are accommodated in each Development Area Plan.	Project Developer	Department of Public Works	Concurrent with Development Area Plan submittal for each phase to the extent that data is available and with Architectural Review to the extent minor details are not known at DAP

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
• Parking layout and circulation within the site • Bicycle access and circulation • Pedestrian access and circulation • Pedestrian access to and from transit stops • Truck circulation and loading dock access for commercial parcels				
TRA-6.1: Intersection Improvements With Access Variant Scheme. The intersection improvements summarized in Table 3.3-35 shall be implemented. These improvements will reduce vehicle delays and fully mitigate Project impacts at several intersections by allowing them to operate at acceptable levels, with delays that would be lower than they would be under no-project conditions, or with less than a 4-second increase in critical delay for intersections that operate at unacceptable levels. Table 3.3-35 also contains physical improvements for select intersections that will reduce the delay, but not to a level that fully mitigates the impact. Some of the intersection improvements would require ROW acquisition. A preliminary review of ROW constraints was done by viewing aerial photography as a part of the mitigation measure feasibility assessment. An intersection was identified as having ROW constraints if the mitigation measure would include widening the roadway or relocating aboveground utilities. (Use of the center median and "pork-chop" islands was not considered as roadway widening.) If the removal of bicycle facilities was required, the ROW required was defined as "possible." If the City makes a final determination that a portion or all of an improvement is not feasible because ROW cannot be acquired or for other reasons, the improvement, or infeasible portion, shall not be implemented and, if none of the improvement is feasible, that intersection shall be considered to have "no feasible mitigation."	Implement intersection improvements summarized in Table 3.3-35 of the Draft EIR and pay fair share contribution in accordance with Exhibit MMRP-1.	Project Developer	Department of Public Works	In accordance with Exhibit MMRP-1
TRA-6.2: Intersection Improvements for Phases 1, 2 and 3. The intersection improvements summarized in Table 3.3-36 shall be implemented. These improvements will reduce vehicle delays and fully mitigate Project impacts at several intersections by allowing the intersections to operate at acceptable levels, with delays that would be lower than they would be under no-project conditions, or with less than a 4-second increase in critical delay for intersections that operate at unacceptable levels. Table 3.3-36 also contains physical improvements for select intersections that will reduce the delay, but not to a level that mitigates the impact. Some of the intersection improvements would require ROW acquisition. A preliminary review of ROW constraints was done by viewing aerial photography as a part of the mitigation measure feasibility assessment. An intersection was identified as having ROW constraints if the mitigation measure would include widening the roadway or relocating aboveground utilities. (Use of the center median and "pork- chop" islands was not considered as roadway widening.) If the removal of bicycle facilities was required, the ROW required was defined as "possible." If the City makes a final determination that a portion or all of an improvement is not feasible because ROW cannot be acquired or for other reasons, the improvement, or infeasible portion, shall not be implemented and, if none of the improvement is feasible, that intersection shall be considered to have "no feasible mitigation."	Implement the intersection improvements for Phases 1, 2, and 3, as summarized in Table 3.3-36 of the Draft EIR and pay fair share contribution in accordance with Exhibit MMRP-1.	Project Developer	Department of Public Works	In accordance with Exhibit MMRP-1

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
TRA-7.1: Sidewalk Gap Closure on Tasman Drive on the Lafayette Street overcrossing extending east to Calle Del Sol. The Project Developer shall construct a sidewalk on the north side of Tasman Drive on the Lafayette Street overcrossing and extending east to Calle Del Sol. The Project Developer shall fully fund the construction of this sidewalk segment between the Project frontage on Tasman Drive and Calle Del Sol.	Project Developer to construct a sidewalk on the north side of Tasman Drive on the Lafayette Street overcrossing, extending east to Calle Del Sol.	Project Developer	Department of Public Works	Prior to the issuance of certificate of occupancy for first building within Phase 1
TRA-14.1: Signalized Intersection Improvements. The intersection improvements and off-setting mitigation measures summarized in Table 3.3-20 shall be implemented and Project Developer shall pay the fair-share contributions for the mitigation measures summarized in Table 3.3-20, The Project Developer shall also pay the fair-share contribution for the additional intersections or off-setting mitigation measure identified in Table 3.3-50. The improvements will reduce vehicle delays and fully mitigate cumulative impacts at several intersections by allowing the intersections to operate at acceptable levels, with delays that would be less than they would be under no-project conditions, or with less than a 4-second increase in critical delay for intersections that operate at unacceptable levels. Table 3.3-50 also contains physical improvements for select intersections that will reduce the delay, but not to less than no-project conditions such that the Project's effects would remain cumulatively considerable. Some of the intersection improvements would require ROW acquisition. A preliminary review of ROW constraints was done by viewing aerial photography as a part of the mitigation measure feasibility assessment. An intersection was identified as having ROW constraints if the mitigation measure would include widening the roadway or relocating aboveground utilities. (Use of the center median and "pork- chop" islands was not considered as roadway widening.) If the removal of bicycle facilities was required, the ROW required was defined as "possible." If the City makes a final determination that a portion or all of an improvement or mitigation is not feasible because ROW cannot be acquired or for other reasons, the improvement, or infeasible portion, shall not be implemented and, if none of the improvement is feasible, that intersection shall be considered to have "no feasible mitigation."	Project Developer to implement intersection improvements mitigation measures summarized in Table 3.3-20 of the Draft EIR and pay the fair-share contributions for the mitigation measures in accordance with Exhibit MMRP-1.	Project Developer	Department of Public Works	In accordance with Exhibit MMRP-1
TRA-16.1: Intersection Improvements for Cumulative with-Project Access Variants. The intersection improvements summarized in Table 3.3-54 shall be implemented. Some of the intersection improvements would require ROW acquisition. A preliminary review of ROW constraints was done by viewing aerial photography as a part of the mitigation measure feasibility assessment. An intersection was identified as having ROW constraints if the mitigation measure would include widening the roadway or relocating aboveground utilities. (Use of the center median and "pork-chop" islands was not considered as roadway widening.) If the removal of bicycle facilities was required, the ROW required was defined as "possible." If the City makes a final determination that a portion or all of an improvement or mitigation is not feasible because ROW cannot be acquired or for other reasons, the improvement, or infeasible portion, shall not be implemented and, if none of the improvement is feasible, that intersection shall be considered to have "no feasible mitigation."	Project Developer to implement the intersection improvements summarized in Table 3.3-54 of the Draft EIR and pay the fair-share contributions for the mitigation measures in accordance with Exhibit MMRP-1.	Project Developer	Department of Public Works	In accordance with Exhibit MMRP-1

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
TRA-18.1: Construction Management. Prior to the issuance of each building permit, the Project Developer and construction contractor shall meet with the Public Works Department to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion during construction of the Project and develop acceptable detour routes for emergency vehicles and for shuttles to the Great America ACE/Capitol Corridor station. The City will coordinate with appropriate transit agencies. The Project Developer shall prepare a Construction Management Plan for review and approval by the Public Works Department, which shall share the plan with interested the Capitol Corridor Joint Power Authority, the VTA, and ACE for review and comment. The plan, which shall be implemented during construction, shall include at least the following items and requirements: • A set of comprehensive traffic control measures, including detour signs if required, lane closure procedures, sidewalk closure procedures, signs, cones for drivers, and designated construction access routes. • Notification procedures for adjacent property owners, the public, transit operators, and public safety personnel regarding when detours and lane closures will occur. • Location of construction staging areas for materials, equipment, and vehicles (must be located on the Project site). • Identification of haul routes for movement of construction vehicles that would minimize impacts on vehicular, pedestrian, and transit vehicle traffic, circulation and safety; and provision for monitoring surface streets used for haul routes so that any damage and debris attributable to the haul trucks can be identified and corrected. Construction vehicles shall be required to use designated truck/haul routes. • Provisions for removal of trash generated by Project construction activity. • A process for responding to and tracking complaints pertaining to construction activity. • Construction vehicles and construction workers shall not be allowed to park in adjacent residential neighborhoods. Construction vehicles will be required to park either in the construction zone or in the temporary parking lots.	Project Developer to prepare and submit a Construction Management Plan for the purpose of managing traffic and reducing traffic congestion during construction. City to review and approve Plan.	Project Developer/ Project Contractor	Department of Public Works	Prior to issuance of each building permit
TRA-19.1: Modified City's Traffic Management and Operations Plan (TMOP) and Prepare a Project-Specific Traffic and Parking Management Plan. Modify the City's TMOP to include plans to direct stadium traffic to the new parking locations on the site. (Some of the office parking areas will be used during special events.) A separate traffic and parking management plan shall be developed for the Project by the Project Developer and approved by the Director of Community Development and/or the Director of Public works. This plan would address: • Parking areas to be used by office employees (versus stadium parking); • Project customer/employee parking (versus stadium parking); • Access and egress routes for vehicles to the site, taking into consideration the lane and roadway segment closures used to direct stadium traffic; • A communications plan to inform customers and employees of game-day operations; and • Operational improvements such as signal timing and coordination to maximize efficiency of the streets during peak periods.	Project Developer to modify the City's TMOP to include plans to direct stadium traffic to the new parking locations on the site, and a site traffic and parking management plan for review and approval by City.	Project Developer	Director of Community Development and/or Director of Public Works	Prior to the issuance of first certificate of occupancy within each DAP area

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
Performance goals that reflect a successful traffic and parking management plan would be contained in the plan and may include items such as: • Maintaining vehicular access to the Project with acceptable increases in travel times compared to non-game day conditions; • Limited vehicle queuing within the Project site such that no internal circulation roadways are blocked; and • Limited vehicle queuing extending from parking facilities within the Project onto external public roadways. Even with mitigation, the local streets near the Project site would operate at an unacceptable LOS due to vehicle demand exceeding capacity. Widening roadways or intersections to increase capacity was considered as mitigation but rejected due to utility and secondary impacts. Street widening would provide capacity that would be needed only on game days and not at other times. The City of Santa Clara General Plan has policies to discourage the widening of existing roadways without first considering operational improvements such as the items included in the existing TMOP and items that will be included in the TDM Plan.				
Air Quality				
AQ-2.1: Utilize Clean Diesel-Powered Equipment during Construction to Control Construction-Related Reactive Organic Gas (ROG) and Oxides of Nitrogen (NOX) Emissions. The Project Developer shall ensure that all off-road diesel-powered equipment used during construction between 2017 and 2022 is equipped with the U.S. Environmental Protection Agency (EPA) Tier 3 or cleaner engines, except for specialized construction equipment for which an EPA Tier 3 engine is not available. Consistent with advancements of the statewide fleet average, the Project Developer shall ensure that all off-road diesel-powered equipment used during construction between 2023 and 2030 is equipped with EPA Tier 4 engines, except for specialized construction equipment for which an EPA Tier 4 engine is not available. This requirement will ensure construction equipment remains cleaner than the fleet-wide average.[4]	Project Developer to provide to City applicable provisions of construction contracts requiring that all off- road diesel-powered equipment used for construction between 2017 and 2022 is equipped with the U.S. EPA Tier 3 or cleaner engines and that all off- road diesel-powered equipment used for construction between 2023 and 2030 is equipped with EPA Tier 4 engines.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to grading or building permit issuance
AQ-2.2: Use Modern Fleet for On-Road Material Delivery and Haul Trucks during Construction. The Project Developer shall ensure that all on-road heavy-duty diesel trucks with a gross vehicle weight rating of 19,500 pounds or greater used at the Project site comply with EPA 2007 on-road emissions standards for PM10 and NO_X (0.01 grams per brake horsepower-hour [g/bhp-hr] and 0.20 g/bhp-hr, respectively).	Project Developer to provide to City applicable provisions of construction contracts requiring the use of modern fleet for on-road material delivery and that haul trucks comply with EPA 2007 on-road emissions standards for PM10 and NOX.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to grading or building permit issuance

[4] As explained in MM AQ-6.1, below, as necessary to reduce cancer risk to on-site sensitive receptors related to construction diesel particulate matter emissions to a level below the BAAQMD, the Project Developer may need to use Tier 4 equipment after occupancy of on-site residences or daycare centers, or may use other appropriate measures (see AQ-6.1). If Tier 4 equipment is used earlier than 2023, this may reduce the amount of mitigation required in MM AQ-2.4.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
AQ-2.3: Implement Bay Area Air Quality Management District (BAAQMD) Additional Construction Mitigation Measures to Reduce Construction-Related Dust and Exhaust Emissions. The Project Developer shall require all construction contractors to implement the specific construction mitigation measures below to reduce fugitive dust and equipment exhaust emissions. Emission reduction measures shall include, at a minimum, the following measures. Alternative measures may be identified by the Project Developer or its contractor, as appropriate, provided that they are as effective as the measures below. Alternative measures shall be submitted to the City of Santa Clara for approval. • All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. If water infiltration into landfill refuse layers is a concern, non-toxic soil stabilizers may be used instead. • All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 miles per hour (mph) for a period of 2 hours or more. • Windbreaks (e.g., fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Windbreaks shall have at maximum 50 percent air porosity. • Exposed ground areas that are to be reworked more than 1 month after initial grading should be sown with fast-germinating native grass seed and watered appropriately until vegetation is established. If grass seeding is not feasible, then non-toxic soil stabilizers may be used. • All construction trucks and equipment, including tires, involved in ground disturbance or transit through loose soil areas shall be washed off prior to leaving the site. • Site accesses to a distance of 25 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel. Alternatively, a rumble plate may be used in place of chips, mulch, or gravel. • Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1 percent. • Idling time of diesel powered construction equipment shall be limited to 2 minutes. • All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of PM and NOX. • All contractors shall use equipment that meets the California Air Resources Board's (ARB's) most recent certification standard for off-road heavy-duty diesel engines.	Project Developer to provide to City applicable provisions of construction contracts requiring the use of BAAQMD additional construction mitigation measures to reduce construction-related dust and exhaust emissions.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to grading and building permit issuance
AQ-2.4: Offset NO_X Emissions Generated during Construction that Are above BAAQMD NOX Average Daily Emission Threshold. The Project Developer shall track construction activity, estimate emissions, and enter into a construction mitigation contract with BAAQMD to offset NO_X emissions that exceed BAAQMD NOX average daily threshold of 54 pounds per day. The average daily emissions shall be calculated on an annual basis by determining total construction-related NO_X emissions in each calendar year and dividing by the number of actual workdays in that calendar year. BAAQMD will use the mitigation fees provided by the Project Developer to implement emissions reduction efforts that offset Project NO_X emissions that exceed BAAQMD threshold. Implementation of this mitigation measure shall apply only to Phase 1 through Phase 4 construction on Parcels 4 and 5 because only construction on Parcels 4 and 5 has the potential to exceed the BAAQMD average daily NO_X threshold on an annual basis, depending on construction sequencing and overlapping activity.	City construction mitigation contracts with BAAQMD. Project Developer to provide to City annual construction activity monitoring data for City verification that the data is representative.	Project Developer/ Project Contractor	City Planning & Inspection Division	Approval of agreement prior to grading and building permit issuance, annual submittal of evidence documenting compliance and of construction activity monitoring data during construction of Phases 1 through 4 on Parcels 4 and 5.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
This mitigation includes the following specific requirements: • The Project Developer shall require construction contractors to provide annual construction activity monitoring data for Phases 1 through 4 to estimate actual construction emissions, including the effect of equipment emissions reduction measures. The Project Developer shall submit the annual construction activity monitoring data and an estimate of actual annual construction emissions to the City and BAAQMD for review by February 1 of each year for the prior construction year. The City shall examine the construction activity monitoring to ensure it is representative, and BAAQMD shall examine the emissions estimate to ensure it is calculated properly. • After acceptance of the emissions estimates by BAAQMD for the prior year, the Project Developer shall submit mitigation fees to BAAQMD to fund offsets for the portion of annual emissions that exceed the average daily NOX threshold. The mitigation fees shall be based on the mitigation contract with BAAQMD (see discussion below) but shall not exceed the emissions-reduction project cost-effectiveness limit set for the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) for the year in which mitigation fees are paid. The current Carl Moyer Program cost-effectiveness limit is $18,030 per weighted ton of criteria pollutants (NOX + ROG + [20*PM]). An administrative fee of 5 percent shall be paid by the Project Developer to BAAQMD to implement the program. • The mitigation fees shall be used by BAAQMD to fund projects that are eligible for funding under the Carl Moyer Program guidelines or other BAAQMD emissions- reduction incentive programs that meet the Carl Moyer Program cost-effectiveness threshold and are real, surplus, quantifiable, and enforceable. • The Project Developer shall enter into a mitigation contract with BAAQMD for the emissions-reduction incentive program. The mitigation contract shall include the following: o Identification of appropriate off-site mitigation fees required for the Project. o Timing for submission of mitigation fees. o Processing of mitigation fees paid by the Project Developer. o Verification of emissions estimates submitted by the Project Developer. o Verification that off-site fees are applied to appropriate mitigation programs within the SFBAAB. The mitigation fees shall be submitted within 4 weeks after BAAQMD accepts an emissions estimate provided by the Project Developer showing that the average daily NOX threshold was exceeded (when measured on an annual basis).				

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
AQ-6.1: Assess Construction Diesel Particulate Matter (DPM) Emissions Potential Prior to Construction, Utilize Clean Diesel-Powered Equipment, Filtration Systems, and/or other Measures as Necessary to Reduce Cancer Risks Associated with DPM during Construction. The Project Developer shall implement the following measures, as necessary, to reduce cancer risks associated with DPM during construction to a level less than BAAQMD incremental cancer risk threshold of 10 in 1 million: • Revised Health Risk Assessment (HRA): The Project Developer may choose to assess the potential construction DPM emissions later in the design phase, but prior to construction, and to prepare a revised HRA using updated construction equipment activity data and submit to the City for review. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk for construction of the entire Project at all potentially exposed on-site and off-site sensitive receptors will be less than BAAQMD threshold cited, then no additional mitigation is necessary. If the revised HRA demonstrates, to the satisfaction of the City, that the cancer risk for construction of the entire Project at some of the on-site or off-site sensitive receptors will be less than presented in the EIR but still over the BAAQMD threshold, then some of the mitigation below may not be necessary. • As necessary to reduce cancer risks below the BAAQMD threshold in light of projected DPM emissions and exposure and other mitigation (MM AQ-2.1 through MM AQ-2.3 and MM GHG-1.1), one or more of the following measures shall be implemented and the Project Developer will provide updated modeling to the City demonstrating that all on-site risks are reduced to below the BAAQMD threshold level: • Tier 4 Construction Equipment. If on-site and residences and daycare centers are occupied, the Project Developer shall ensure that all off-road diesel-powered equipment used during construction after occupancy of on-site residences or on- site daycare centers is equipped with EPA Tier 4 or cleaner engines, except for specialized construction equipment for which an EPA Tier 4 engine is not available. This requirement would be in addition to the clean diesel requirements in Mitigation Measure AQ-2.1. o Install Filtration Systems on Ventilation and Recirculation Systems. Filtration systems shall be installed on ventilation and recirculation systems within on-site residences and for the heating, cooling, or ventilation systems serving daycare centers. All filters must be rated MERV-13 or higher. The Project Developer shall submit a plan for installation and maintenance of all filters in accordance with the manufacturer's recommendations to the City prior to approval of the first building permits. o If on-site and residences and daycare centers are occupied, the Project Developer shall employ other reduction measures, such as High Performance Renewable (HPR) Diesel Fuel, that would reduce DPM. Proposals for alternative reduction measures shall be submitted to the City for review and approval, including evidence of the particulate reduction and/or risk reduction effectiveness of the proposed alternative measures.	Project Developer to provide revised HRA (optional) or provide updated modeling and applicable provisions of construction contracts and/or building plans including measures to reduce cancer risks. City to review and approve revised HRA (optional to project Developer) or approve applicable provisions of construction contracts and building plans if no HRA is prepared or if revised HRA shows that cancer risks would not be below regulatory thresholds.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to construction that is planned to occur after the first occupancy of on-site residences or daycare centers and/or prior to residential or day care building permit issuance if Project Developer desires to incorporate measures into structure
Greenhouse Gas Emissions				
GHG-1.1: Utilize Alternative Fuels during Construction. Require construction contractors to use alternative fuels in at least 30 percent of the construction equipment that uses diesel fuel. Alternative fuels may include electricity, compressed natural gas (CNG), biodiesel (B-20), or renewable diesel, such as diesel high-performance renewable (HPR).	Developer to provide to City applicable provisions of construction contracts requiring adequate use of alternative fuels.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to grading and building permits.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
GHG-1.2: Operational GHG Emissions Reduction Measures. The Project Developer shall implement the operational GHG emissions reduction strategies described below: 1. Energy Efficiency: The Project's energy efficiency shall be 15 percent better than the base case energy model developed pursuant to the 2013 Title 24 requirements or shall meet the Title 24 requirements that are applicable at the time of issuance of the building permits for individual phases, whichever is more stringent (Climate Action Plan [CAP] Measure 2.1).[5] 2. On-site Solar Energy: The Project already includes on-site photovoltaics (PV) solar to meet 10 percent of electricity demand. The Project shall obtain renewable energy electricity corresponding to 50 percent[6] of on-site electricity demand by 2030 through a combination of on-site solar, purchase of renewable energy or other measures (CAP Measure 2.4). This requirement may be phased in as follows: 2020 – 15%; 2025 – 29%; 2030 – 50%. If the Project Developer can demonstrate, to the City's satisfaction, that through Project design, adopted State or federal regulations, or other assured actions that the Project's emissions overall will meet the 2030 metric identified in this document without the implementation of this particular measure of its full implementation, then this measure (or its full implementation) may be waived by the City. 3. Food Waste: All retail restaurants shall be required to participate 100 percent in any extant City food waste and composting programs and any that may be developed in the future (CAP Measure 4.1). 4. Electrical Landscaping Equipment: The Project shall include installation of electrical outlets near all maintained landscaping areas to allow for the use of electrical landscaping equipment (CAP Measure 5.1). In the landscaped City Center, only electrical landscape equipment shall be used. Use of electrical landscaping equipment shall not be required for the extensive natural landscaping contemplated at the edges of the City Center and at Parcels 1, 2, and 3. 5. Electrical Vehicle Charging/Preferential Parking (CAP Measure 6.3). The Project shall provide preferential parking in all parking lots for electric vehicles and shall also provide charging equipment, as follows: a. Residential Use: A total of 10 percent of the required parking spaces shall be provided with a listed cabinet, box, or enclosure and connected to a conduit that links the parking spaces to the electrical service in a manner approved by the building and safety official. Of the listed cabinets, boxes, or enclosures provided, 50 percent shall have the necessary electric vehicle supply equipment installed to provide active charging stations that are ready for use by residents. The remainder shall be installed at such time as they are needed for use by residents. Electrical vehicle batteries and charging technology may change substantially over the next 15 years. As such, the City shall have the discretion to modify the specific requirements for this measure over time, provided that 10 percent of the spaces have electrical service and 5 percent have active charging, depending on what the technology at the time requires.	#1, 4, 5, 6, 7, 11, 12: Building and landscape plans. #2: Annual reporting unless Project Developer demonstrates at building permit issuance that goal will be met. #10, 13: Ground leases to require implementation of measures and incorporation of operational measures into subleases.	Project Developer	City Planning & Inspection Division	#1, 4, 5, 6, 7, 11, 12: Prior to building permit issuance #2: Prior to building permit issuance unless the developer wishes to demonstrate that emissions will meet the 2030 metric. #3, 8, 9, 10: Prior to execution of ground leases; provisions must be included in each applicable ground lease.

[5] The CEC intends for residential buildings in 2020 and later to be zero net energy (ZNE) and commercial buildings in 2030 or later to be ZNE, but because pending regulations are not yet adopted, this cannot be assumed in this analysis.

[6] CAP measure 1.1 requires the City's utility (SVP) to replace coal power within its portfolio with natural gas by 2020 and includes a stretch goal to replace the coal power with a combination of 50% natural gas and 50% renewable energy by 2035. Thus the CAP stretch goal is to increase renewable energy within its portfolio from 2020 to 2035. The 29 percent value for the mitigation above was calculated as the difference between the CAP Measure 1.1 reduction amount for the stretch goal for 2035 (71%) and the CAP Measure 1.1 reduction amount for 2020 (42%). As discussed in text, the Project has less than significant impact in comparison to the BAAQMD service population efficiency threshold based on the AB 32 target for 2020. Since the EIR finds that the project's emissions are significant for the period after 2020, the use of the difference in the CAP Measure 1.1 between 2020 and 2035 is appropriate to the impact identified for the Project.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
b. Commercial Use: New commercial uses shall provide the electrical service capacity necessary as well as all conduits and related equipment necessary to serve 2 percent of the parking spaces with charging stations in a manner approved by the City's Building Official. Of these parking spaces, 50 percent shall initially be provided with the equipment necessary to function as online charging stations upon completion of the Project. The remainder shall be installed at such time as they are needed for use by customers, employees, or other users. Electrical vehicle batteries and charging technology may change substantially over the next 15 years. As such, the City shall have the discretion to modify the specific requirements for this measure over time, provided that two percent of the spaces have electrical service and one percent have active charging, depending on what the technology at the time requires.				
6. Shade Trees: Where surface parking lots are not covered by PV solar, shade trees shall be planted to reduce urban heat island effects on adjacent buildings (CAP Measure 7.1).				
7. Urban Cooling: Any uncovered parking lots or spaces shall use light-colored pavement (CAP Measure 7.2).				
8. Leases for businesses that base a diesel truck fleet within the Project site: Ensure those fleets meet the highest CARB engine-tier standard in place at the time of issuance of the building permits for the building that such businesses occupy, or the execution of a lease, whichever comes first.				
9. Electrical hook-ups at loading docks for businesses that will receive deliveries from refrigerated diesel trucks: Stipulate in the lease agreement for such businesses a requirement to use the hook-ups if the trucks will be idling for more than two minutes.				
10. Leases for business receiving deliveries: Prohibit all diesel-powered trucks from idling for more than 2 minutes.				
11. Solar hot water heating systems: Incorporate for appropriate applications, including any swimming pools and buildings with swimming pools.				
12. Electric heat pumps, or other energy-efficiency techniques, including radiant systems: Include for space heating and cooling, under appropriate circumstances.				

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
Noise				
NOI-1.1: Prepare and Implement a Construction Noise Control Plan to Reduce Construction Noise at Adjacent Land Uses. The Project Developer shall develop a noise control plan that requires that the Project construction activities comply with the City Code noise limits. The requirements and limitations specified in the plan shall be determined by phase and/or parcel and/or subsections of a parcel or phase. The construction noise control plan shall require the following: • The Project Developer shall appoint a Project noise coordinator who will serve as the point of contact for noise-related complaints during Project construction. The Project noise coordinator shall transmit all construction noise-related complaints to the construction contractor, and the construction contractor shall enhance or refine the noise best management practices discussed herein to address the received noise complaints to the extent feasible. The contact information for the Project noise coordinator shall be sent to residents in the greater vicinity of the Project site that could be affected by Project noise and municipalities affected by Project construction noise. • Construction activities that have the potential to generate noise that is detectable at adjacent residential land uses or within 300 feet of a residentially zoned property shall occur only during the times listed below. Activities that would result in no detectable noise at adjacent land uses, such as interior painting, would not be limited by the hours below. o Between 7:00 a.m. and 6:00 p.m. Monday through Friday. o Between 9:00 a.m. and 6:00 p.m. on Saturdays. o No duration in time on holidays or Sundays. • Construction contractors shall specify noise-reducing construction practices that will be employed to reduce construction noise for construction activities that would occur outside of the prohibited hours specified in the City Code and that would have the potential to exceed the receiving zone noise limits specified in the City Code. The measures determined by the Project Developer shall be reviewed and approved by the City prior to the issuance of building permits. Measures that can be used to limit noise include, but are not limited to, those listed below. o Locating construction equipment as far as feasible from noise-sensitive uses. o Requiring that all construction equipment powered by gasoline or diesel engines have sound-control devices that are at least as effective as those originally provided by the manufacturer and that all equipment be operated and maintained to minimize noise generation. o Not idling inactive construction equipment for prolonged periods (i.e., more than 2 minutes). o Prohibiting gasoline or diesel engines from having unmuffled exhaust systems. o Using noise-reducing enclosures around noise-generating equipment that has the potential to disturb nearby off-site land uses, or where otherwise necessary, to comply with the City Code noise limits for receiving zones.	Project Developer to provide noise control plan for City review and approval.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to issuance of the first building permit within each Development Area Plan area

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
NOI-1.2: Implement Off-Site Traffic Noise Reduction Measures. The Project Developer shall implement off-site traffic noise reduction measures along the east side of Lafayette Drive between Tasman Drive and Hogan Drive such that the Project- related increase in traffic noise for noise receptors is less than 3 dBA. The Project Developer shall construct a solid barrier between the roadway and adjacent residential uses along Lafayette Drive between Tasman Drive and Hogan Drive unless deemed infeasible for any reason including unavailability of sufficient right of way or inability to secure design review/architectural approval. The Project Developer shall implement off-site traffic noise reduction measures along the south side of Tasman Drive between Lafayette and Calle del Sol such that cumulative with project-related increase in traffic noise for noise receptors is less than 3 dBA or the project contribution to traffic noise is less than 1 dBA. The Project Developer shall construct a solid barrier between the roadway and adjacent residential uses along Tasman Drive between Lafayette and Calle del Sol unless deemed infeasible for any reason including unavailability of sufficient right of way or inability to secure design review/architectural approval. The barriers shall be designed to provide shielding between areas of frequent human use (i.e., residence backyards) and the roadway. This would result in approximately 1,000 feet of noise barriers along this the Lafayette segment (between Tasman Drive and Hogan Drive) and up to 800 feet along the Tasman segment (between Lafayette and Calle del Sol). One effective approach would be to replace the existing privacy fences at single family residences with a solid barrier that is at least 6 feet high. The Project Developer shall prepare an off-site noise control plan that identifies the location, design, and effectiveness of the specific treatments to be implemented. This plan shall be submitted to the City for review and approval prior to the issuance of building permits. The off-site noise improvements shall be completed before Project operations commence.	Qualified professional to determine which Phase of the Project triggers the need for the reduction measures. Project Developer to provide noise control plan for City review, determination of feasibility and approval.	Project Developer	City Planning & Inspection Division	Qualified professional to determine which phase triggers noise barrier during Phase 1 of DAP approval. City to determine feasibility of noise barriers, and approve design if feasible, as part of DAP approval. If feasible, barriers to be constructed as part of construction for the Phase triggering the need for the barrier.
NOI-2.1: Restrict Pile Driving. Pile driving occurring 175 feet or less from new residential or commercial buildings shall be conducted prior to those buildings being occupied by future occupants.	City will not approve building permits that include pile driving within 175 feet of occupied residential.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to issuance of building permits if driven pile foundations are planned and prior to occupancy of proximate residential or commercial buildings
NOI-5.1: Prepare and Implement a Noise Control Plan to Reduce Interior Noise at Sensitive Land Uses. The Project Developer shall conduct a design-level acoustic study that identifies exterior noise levels for residential and commercial uses on the Project site. This study shall take into account existing airport noise, Project, and reasonably foreseeable future noise sources (such as proposed increases in passenger rail service along the Lafayette Street corridor). Where this study finds that the exterior noise level would exceed the residential compatibility standard of 55 dBA Ldn or the commercial incompatibility standard of 65 dBA Ldn, the Project Developer shall prepare a design-level operational noise control plan to provide acceptable interior noise levels. This plan shall identify all Project features and treatments that will be implemented to ensure that the Project is in compliance with the interior noise standards listed in the City's General Plan and City Code as well as the standards specified for new construction within the CLUP for SJC. The study and plan shall be developed by an acoustical design professional. Design features and treatments will be identified to ensure that interior noise levels at new proposed uses are in compliance with the noise standards. The report shall be submitted to the City for review and approval prior to the issuance of building permits for the Project. Depending on the noise exposure	Project Developer to provide design-level acoustic study for City review and approval and to incorporate necessary measures into building design when exterior noise levels exceed residential and commercial incompatibility standards.	Project Developer/ Acoustical Design Professional	City Planning & Inspection Division	Prior to issuance of building permits for residential and commercial buildings

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
for a particular site, such treatments may include, but are not limited to, those listed below, as recommended by the acoustical design professional. • Construction of enclosures around noise-generating mechanical equipment at commercial uses. • Use of setbacks from noise sources to maximum attenuation of noise over distance. • Installation of noise-reducing treatments in new buildings, including: • High-performance, sound-rated double-glazed windows, o Sound-rated doors, o Sound-rated exterior wall construction, o Special acoustical details for vents, o Acoustical caulking at all exterior façade penetrations, o Sound-rated roof and ceiling constructions, and o Adequate mechanical ventilation so that windows and doors may be kept closed at the discretion of the building occupants to control environmental noise intrusion.				
Cultural Resources				
CR-1.1: Conduct Extended Phase I (XPI) Archaeological Investigations within the Project Site near Recorded Resources and within an Area of Archaeological Sensitivity. Prior to construction, if it is determined that Project related ground- disturbing activities may extend into native soil within 100 feet of a previously recorded archaeological site, the Project Developer shall retain the services of a qualified archaeologist to conduct XPI investigations within the Project site. The XPI investigations shall consist of subsurface trench excavations to determine the presence or absence of buried features associated with the known archaeological site. If feasible, at least two trenches shall be placed in recorded location P-43-000025/CA-SCL-5, which is recorded as partially in the Project site, to ensure adequate investigations in this area. If the XPI investigations reveal resources, additional trenches or testing may be necessary. Mitigation Measure CR-1.3, described below, shall be followed.	Project Developer to submit XPI Archaeological Investigation(s) to City.	Project Developer/ Qualified Archaeologist	City Planning & Inspection Division	Prior to issuance of grading permits that would disturb native soils within 100 feet of a previously recorded archaeological site
CR-1.2: Provide Archaeological Monitoring of the Project Site When in Native Soil. Prior to construction, if it is determined that Project-related ground-disturbing activities may extend into native soil, within 100 feet of a previously recorded archaeological site, the Project Developer shall retain the services of a qualified archaeologist to monitor earthmoving activities within the Project site. Monitoring shall consist of coordinating subsurface work to allow for the careful examination of vertical and horizontal soil relationships for the purpose of seeking positive archaeological finds (prehistoric and/or historic). The monitor shall maintain a field log of their presence and observations, carefully noting soil conditions. The archaeological monitor shall be pre-approved by the Director of Planning and Inspection. After written approval, the Planning Division shall be notified at least 48 hours prior to any grading or other subsurface work on the site, and the Project Developer shall provide a written protocol for the City's review and approval that stipulates the manner in which the Project Developer shall comply with the monitoring requirements. In the event that cultural resources are encountered, Mitigation Measure CR-1.3, described below, shall be followed.	City to approve monitor, ensure monitor is in place, and approve monitoring protocol, which shall include requirements of CR-1.3.	Project Developer/ Qualified Archaeologist	City Planning & Inspection Division	Monitoring protocol prior to the issuance of grading and building permits that would disturb native soils within 100 feet of a previously recorded archaeological site; monitoring shall occur during earthmoving activities

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
CR-1.3: Stop Work if Cultural Resources Are Encountered during Ground- Disturbing Activities. In the event that cultural resources are encountered during ground disturbing activities, all work within proximity of the find shall temporarily halt so that the archaeological monitor can examine the find and document its provenience and nature (drawings, photographs, written description). The archaeological monitor shall then direct the work to either proceed if the find is deemed to be insignificant, or instruct the work to continue elsewhere or cease until adequate mitigation measures are adopted. If the find is determined to be potentially significant, the archaeologist, in consultation with the Planning Division, shall develop a Treatment Plan that could include site avoidance, capping, or data recovery. If data recovery is determined to be appropriate, excavation shall target recovery of an appropriate amount of information from archaeological deposits to determine the potential of the resource to address specific research questions. If it occurs, data recovery shall emphasize the understanding of the archaeological deposit's structure, including features and stratification, horizontal and vertical extent, and content, including the nature and quantity of artifacts.	Archaeological monitor (retained by the Project Developer), as necessary, and in consultation with the City, develop a Treatment Plan. See also CR-1.2.	Project Developer/ Qualified Archaeologist	City Planning & Inspection Division	During construction if cultural resources are encountered
CR-2.1: Paleontological Resource Mitigation Plan. Prior to any deep excavations below an elevation of -30 feet (North American Vertical Datum of 1988 [NAVD] 88) at the Project site on areas not underlain by landfill refuse, the Planning Division shall be notified at least 48 hours prior to the excavation, and a qualified professional paleontologist shall prepare a Paleontological Resource Mitigation Plan (PRMP) in consultation with the Planning Division. The PRMP shall describe the tasks necessary to monitor, assess, and recover (if present) significant paleontological resources during Project excavation activities. The PRMP shall be implemented by the qualified paleontologist during the deep Project excavations below an elevation of -30 feet (NAVD 88).	Project Developer to submit to City PRMP prepared by paleontologist (retained by the Project Developer).	Project Developer/ Qualified Professional Paleontologist	City Planning & Inspection Division	Prior to issuance of grading permits for excavations below an elevation of -30 feet at Parcel 5 and areas of Parcel 4 not underlain by landfill.
CR-2.2: Paleontological Resource Monitoring. In accordance with the PRMP, a qualified paleontologist shall monitor for fossils in Pleistocene deposits during Project excavations below an elevation of -30 feet (NAVD 88) on areas not underlain by landfill refuse or below other elevations confirmed in the field by the qualified paleontologist. The qualified paleontologist shall be present initially for 100 percent of the excavation activities within the Pleistocene deposits. After 50 percent of the excavation is completed within the rock unit and if no fossils of any kind have been discovered, then the level of monitoring can be reduced or suspended entirely at the Project paleontologist's discretion. If the paleontologist discovers potential paleontological resources, all ground disturbance within 50 feet of the find shall stop immediately until the qualified professional paleontologist can assess the nature and importance of the find and recommend appropriate salvage, treatment, and future monitoring and mitigation actions.	Project Developer to provide to City contract with paleontologist for implementing PRMP, which shall include requirements of CR-2.3.	Project Developer/ Qualified Professional Paleontologist	City Planning & Inspection Division	Prior to issuance of grading permits for excavation below an elevation of -30 feet at Parcel 5 and areas of Parcel 4 not underlain by landfill
CR-2.3: Paleontological Resource Reporting. If significant paleontological resources are identified, the Project qualified paleontologist shall prepare a report summarizing the field and laboratory methods, site geology and stratigraphy, faunal/floral list(s), and a brief statement of the significance and relationship of the fossils discovered to similar fossils found elsewhere. The final report should emphasize the discovery of any new or rare taxa, or paleoecological or taphonomic significance. A complete set of field notes, geologic maps, stratigraphic sections, and a list of identified specimens must be included in or accompany the final report. This report should be finalized only after all aspects of the PRMP are completed, including preparation, identification, cataloging, and curatorial inventory. Full copies of the final report shall be deposited with both the Lead Agency and the repository institution with the request that all locality data remain confidential and not made available to the general public.	Paleontologist to prepare final report for submission to City. See also CR-2.2.	Project Developer/ Qualified Professional Paleontologist	City Planning & Inspection Division	After a significant paleontological resource is identified during construction

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
CR-3.1: Stop work if human remains are encountered during ground-disturbing activities. When human remains are discovered (in either an archaeological or construction context), all work within proximity of the remains shall stop so that the archaeological monitor can examine the remains. The County Coroner shall be notified, who shall make a determination as to whether the remains are of Native American origin. If the remains are determined to be Native American, the Coroner shall notify the Native American Heritage Commission (NAHC) immediately. The NAHC shall notify those persons it believes are most likely descended from the deceased Native American. Once the NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the State CEQA Guidelines.	Project Developer to submit to City applicable provisions of construction contracts including applicable requirements.	Project Developer/ Project Contractor	County Coroner/ NAHC	Prior to issuance of grading and building permits
Biological Resources				
BIO-1.1: Protect Nesting Birds. The Project Developer and its contractors shall avoid conducting vegetation removal during the migratory bird nesting season (February 1–August 31). If Project-related activities must commence during the migratory bird nesting season, the Project Developer shall retain a qualified wildlife biologist to conduct a survey for nests of migratory birds. Surveys for nesting migratory birds shall occur within 3 days prior to the commencement of ground disturbance and vegetation removal in areas that will be affected by Project construction activities. Multiple nest surveys shall be required if construction is phased or when construction work stops for more than 2 weeks at a portion of the site where suitable nesting habitat remains. If construction is ongoing for multiple years, these surveys shall be conducted each year prior to construction in areas that have not yet been disturbed and are scheduled to be disturbed during the nesting season. In addition to nesting-season surveys, surveys shall be conducted during the non-nesting season (September 1–January 31) for overwintering burrowing owls in areas scheduled for initial disturbance during the upcoming season. The surveys shall also be conducted as described above, with a goal of identifying overwintering owls so they can be appropriately avoided during construction. If an active nest is discovered, a no-disturbance buffer zone around the nest tree or shrub (or, for ground-nesting species, the nest itself) shall be established. The no-disturbance zone shall be marked with flagging or fencing that is easily identified by the construction crew and shall not affect the nesting bird or attract predators to the nest location. In general, the minimum buffer zone widths shall be as follows: 50 feet (radius) for non-raptor ground-nesting species, 50 feet (radius) for non-raptor shrub-and tree-nesting species, and 300 feet (radius) for raptor species. Buffer widths may be modified based on discussion with DFW. Buffers shall remain in place as long as the nest is active or young remain in the area and are dependent on the nest. If a burrowing owl nest is identified during pre-construction surveys, no-activity buffers will adhere to the recommendations in the 2012 California Department of Fish and Game Staff Report on Burrowing Owl Mitigation.[7] Most Project activities would result in a high level of disturbance, constituting a 1,640-foot (500-meter) required buffer around occupied nests during any time of year.[8]	Project Developer to provide to City applicable provisions of construction contracts including pertinent requirements. If construction will occurs in the nesting season, Project Developer to submit to City agreement with qualified wildlife biologist requiring surveys and protective measures under BIO-1.1 and requirement that wildlife biologist report to City if conditions triggering BIO-2.2 exist.	Project Developer/ Project Contractor/ Qualified wildlife biologist	City Planning & Inspection Division	Prior to the issuance of grading and building permits for construction contracts; prior to commencement of grading for biologist agreements; and prior to ground disturbance for surveys

[7] California Department of Fish and Game. 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency. March 7. Available: http://www.dfg.ca.gov/wildlife/nongame/survey_monitor.html#Mammals.

[8] Scobie, D., and C. Faminow. 2000. Development of Standardized Guidelines for Petroleum Industry Activities that Affect COSEWIC Prairie and Northern Region Vertebrate Species at Risk. Environment Canada, Prairie and Northern Region, Edmonton, Alberta, Canada.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
BIO-1.2: Implement Bird-Safe Design Standards into Project Buildings and Lighting Design. Each Development Area Plan (DAP) approved by the City shall include a set of specific standards for minimizing hazards to birds, to be implemented by the Project Developer. The development of the specific bird safety standards for each Development Area Plan shall be tailored to the specific potential hazards to birds in that development area, taking into account the specific locations, types and heights of buildings, lighting, and landscaping. In addition, the DAP shall require enhanced protective measures for buildings within 300 feet of the retention pond, the Guadalupe River, and San Tomas Aquino Creek, such as siting buildings in relation to existing landscape features to reduce conflicts with existing features that may serve as attractive bird habitat; minimizing the reflection of existing vegetation on building facades; or using soil berms, furniture, landscaping, or architectural features to prevent reflection of water in glazed building facades. The specific bird safety standards in each DAP shall be based on the following bird-friendly building principles, to the extent applicable to the particular development area: • Reduce mirrors and large areas of reflective glass. • Avoid transparent glass skyways, walkways, or entryways, free-standing glass walls, and minimize transparent building corners, or utilize glazing treatments to mitigate the hazard. • Minimize funneling of open space toward a building façade. • Strategically place landscaping to reduce reflection and views of foliage inside or through glass. • Reduce potential light and glare by implementing Mitigation Measures AES-2.1 (requiring low-profile, low-intensity lighting directed downward), AES-2.2 (requiring shielded fixtures for outdoor lighting), and AES-2.3 (requiring low emissivity reflective coating on exterior glass surfaces). • To the extent consistent with the normal and expected operations of the uses planned for the particular development area, take appropriate measures to avoid use of unnecessary lighting at night, especially during bird migration season (February-May and August-November) through the installation of motion sensor lighting, automatic lighting shut-off mechanisms, or other effective measures to the extent feasible. The specific bird safety standards shall also provide for a monitoring program, and placing signs around the buildings with phone numbers for authorized bird conservation organizations.	City review and approve each Development Area Plan to ensure adequate measures are included.	Project Developer	City Planning & Inspection Division	Approval of each Development Area Plan
BIO-2.1: Detection of Burrowing Owls. The Project Developer shall allow access to the Project site or off-site areas for biologists who participate in the annual burrowing owl nest survey coordinated by the Santa Clara Valley HCP/NCCP. Burrowing owl surveys are conducted between March and August of each year. As many as four surveys may be conducted each year, in accordance with the Staff Report on Burrowing Owl Mitigation[9] to determine whether burrowing owls are nesting and whether nests are successful. Access to the site for burrowing owl surveys shall be granted until the Project site or off-site area is completely built out. The Project Developer shall not, however, be required to postpone planned development activities to provide such access, except to the extent such postponement is necessary to meet regulatory requirements.	The ground lessee shall allow such access until certificate of completion for the phase.	Project Developer/City	City Planning & Inspection Division	Concurrent with execution of each phase ground lease

9 CDFW 2012. Staff Report on Burrowing Owl Mitigation. State of California Natural Resources Agency.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
BIO-2.2: Mitigation for Loss of Burrowing Owl Habitat during Construction. Should burrowing owls begin nesting on developable portions of the Project site or off-site areas that remain undeveloped as phases of the Project are constructed, or suitable habitat within 600 meters of an active nest is removed from the Project site, then lost burrowing owl habitat shall be replaced at a ratio of at least 1:1 prior to ground-disturbing activities in the area of the Project site or off-site area with an active nest. Affected habitat shall be defined as suitable habitat (based on the habitat mapping completed for this EIR) within a 600 meter radius of an active burrowing owl nest. Suitable land cover types include annual grassland, ruderal, or barren areas. Mitigation sites shall have documented nesting occurrences from at least 1 year within the previous 3 years. If burrowing owls move onto undeveloped portions of the Project Site or off-site area, including the Retention Basin, once the site is fully constructed, there shall be no requirement to provide replacement habitat, unless that undeveloped habitat is developed in the future.	If required, Project Developer to submit certification to the City that habitat has been replaced at the specified ratio. City to review and approve certification.	Project Developer	City Planning & Inspection Division	Prior to ground-disturbing activities until the Project site or off-site areas are completely built-out in the event that wildlife biologist detects circumstance triggering BIO-2.2
BIO-3.1: Protect Western Pond Turtles. Prior to the start of construction activities in or within 50 feet of aquatic habitats, the Project Developer shall retain a qualified biologist to conduct preconstruction surveys for western pond turtles in all suitable habitats (aquatic and upland) in the vicinity of the work site. Surveys shall take place no more than 72 hours prior to the onset of site preparation and construction activities with the potential to disturb turtles or their habitat. If preconstruction surveys identify active nests on the Project site, the biologist shall establish no-disturbance buffer zones around each nest using temporary orange construction fencing. The demarcation shall be permeable to allow young turtles to move away from the nest following hatching. The radius of the buffer zone and the duration of exclusion shall be determined in consultation with DFW. The buffer zones and fencing shall remain in place until the young have left the nest, as determined by the qualified biologist. If western pond turtles are found on the Project site, the Project Developer shall still retain a qualified biologist to monitor construction activities in the vicinity of suitable habitat and implement appropriate measures to protect the western pond turtle. Such measures may include removal and relocation of western pond turtles in proposed construction areas to suitable habitats outside the Project limits, consistent with DFW protocols and permits. Relocation sites shall be subject to DFW approval.	Project Developer to submit to City agreement with qualified biologist and applicable provisions of construction contracts, including requirement that biologist submit to City certification that preconstruction surveys have been conducted and protective measures taken.	Project Developer/ Qualified Biologist	City Planning & Inspection Division	Prior to the issuance of grading or building permits for biologist and construction agreements; and 72 hours prior to site construction activities in or within 50 feet of aquatic habitats
BIO-4.1: Protect Central California Coast Steelhead, Critical Habitat, and Chinook Salmon. Construction, operations, and maintenance on the riverbank, as well as areas within 200 feet of the Guadalupe River, that could result in disturbed sediment depositing within the banks of the channel shall be limited to the summer low-precipitation period (June 1 to October 15), unless otherwise approved by appropriate resource agencies. Limiting riverbank disturbance during these months would reduce the likelihood of adverse effects on adult and juvenile salmonid migration.	Project Developer to provide to City applicable provisions of construction contract ensuring work on the riverbank as well as within 200 feet of the Guadalupe River that could result in disturbed sediment depositing within the banks of the channel is limited to summer low precipitation periods.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to issuance of grading and building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
BIO-5.1: Protect Retention Pond and Eastside Retention Drainage Swale, and San Tomas Aquino Creek and the Guadalupe River Aquatic Habitat during Construction. For construction activities within 50 feet of the aquatic habitat associated with the retention pond and drainage swale, San Tomas Aquino Creek, and Guadalupe River, protective measures shall be put in place to ensure that impacts on those aquatic features shall be avoided and minimized. The following measures shall be deployed during construction: • A qualified biologist shall determine the locations where orange construction barrier fencing shall be installed around aquatic resources (USACE and the Regional Water Board jurisdictional wetlands/waters and DFW jurisdictional lakes and streams) that are to be avoided prior to initiation of construction activities. • Designate the protected area an Environmentally Sensitive Area and clearly identify the area in the construction specifications. • Maintain jurisdictional wetlands/water protection fencing throughout the grading and construction period. • Prohibit grading, construction activity, traffic, equipment, or materials in fenced wetland areas.	Project Developer to provide to City applicable provisions of construction contract and agreement with qualified biologist that include the specified protective measures.	Project Developer/ Qualified Biologist	City Planning & Inspection Division	Prior to issuance of grading and building permits for construction activities within 50 feet of the pertinent aquatic habitat
BIO-5.2: Compensate for Loss of Waters of the U.S. and State (including Wetlands). If impacts to jurisdictional waters of the U.S. or State cannot be avoided, the Project Developer shall obtain permits or approvals to develop from the USACE, the Regional Water Board, and DFW, as appropriate and required. Both the Guadalupe River and San Tomas Aquino Creek are subject to both State and federal jurisdiction because of their connection to the Bay. To ensure that the Project results in no net loss of wetland habitat functions and values, the Project Developer shall compensate for the loss of jurisdictional wetlands/waters through one of the following options. • Purchase of agency-approved mitigation credits from a suitably located mitigation bank prior to construction (ground disturbance that impacts wetlands/waters); • On-site wetland/waters restoration (re-establishment or rehabilitation) establishment (creation) prior to or concurrent with construction impacts; • Off-site wetland/waters restoration (re-establishment or rehabilitation)/establishment (creation) prior to or concurrent with construction; or • A combination of two or more of the above. The amount of agency approved mitigation credits required from a suitably located mitigation bank and/or size and location(s) of the area(s) to be restored (re-established)/established (created) shall be based on appropriate mitigation ratios, as derived in consultation with DFW, USACE, and the Regional Water Board. The Project Developer shall prepare and implement a mitigation and management plan (MMP) as part of the permitting process in conformance with the USEPA/USACE 2008 Mitigation Rule. The mitigation ratios shown in the initial draft MMP submitted to the permitting agencies during Project permitting shall be a minimum of 2:1, as determined through the CEQA process. The MMP, if other than sole purchase of mitigation bank credits, shall include the requirements listed below: • Mitigation implementation plan; • Performance (success) standards or criteria to be met in order to determine that the mitigation has successfully replaced the impacted wetlands/waters in terms of “no net loss” of the impacted functions and values;	Project Developer to provide to City wetland delineation, copies of permits obtained as and if required from USACE, the Regional Water Board and DFW, and the MMP, all satisfying the requirements of BIO-5.2 Project Developer to provide to City annual monitoring reports.	Project Developer/ Qualified Wetland Biologist	DFW, USACE, Regional Water Board, City Planning & Inspection Division	Prepare wetland delineation prior to first grading or building permit for the Project. Obtain requisite agency permits and prepare MMP prior to issuance of grading or building permits for construction activities that will impact jurisdictional wetlands. Monitor plan for a minimum of 5 years.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
• 5-year monitoring plan for determining that performance criteria have been successfully met through the collection of wetlands/waters vegetation survival and cover field data; hydrology flooding, ponding, and/or soil saturation field data; and habitat area data; • Adaptive management plan to be implemented if mitigation performance is found through annual monitoring not to be progressing towards success within the 5-year monitoring period; • Conservation plan to ensure in-perpetuity land use protection of the mitigation site; • Long-term (in-perpetuity) conservation management plan; and • Funding plan for mitigation implementation, 5-year mitigation performance monitoring and maintenance, and an endowment (non-wasting fund) for long-term conservation management. The final MMP shall be determined in consultation with DFW, USACE, and the Regional Water Board. The mitigation plan shall include measure to avoid and minimize the effects of construction on surrounding native habitats. The required performance standard is no net loss of wetland and waters habitat function and values. Monitoring shall occur for a minimum of 5 years, at which time, if the success criteria are met, wetland compensation shall be deemed complete.				
BIO-C.1: Make a Fair-Share Nitrogen Deposition Fee Contribution to the Santa Clara Habitat Agency's Voluntary Fee Payment Program. Consistent with its voluntary commitment to contribute a nitrogen deposition fee through the fee program of the Santa Clara Habitat Agency, the Project Developer shall make a pro-rated per-vehicle-trip nitrogen deposition fee contribution, which will be based on the amount charged by the Santa Clara Valley Habitat Agency under its Voluntary Fee Payments Policy (http://scv-habitatagency.org/DocumentCenter/View/345). Specifically, the per-vehicle trip fee shall be adjusted as set forth below to take into account the different dispersion characteristics of the Project vs. the average dispersion characteristics for development in the HCP/NCCP area. The Project is located farther from serpentine grassland habitat than average development within the Santa Clara Valley HCP/NCCP area. Thus, the required fair-share contribution shall be figured as 38 percent (based on the ICF analysis) of the established fee of the habitat agency for the year in which the building permits are issued for the Project. The fee may be paid up front or in installments in proportion to mitigated vehicle trip generation for the phase of the Project for which the building permits are issued. For fiscal year 2015–2016, the adopted HCP/NCCP nitrogen deposition fee was $4.20 per new vehicle trip. Using Scheme B's estimated trip generation (140,730 trips/day), taking into account the trip reduction effect of Mitigation Measure TRA-1.1 (reduction to 137,910 trips/day), and the 38 percent adjustment factor, if all fees were paid in 2015, the estimated total would be $220,104.	Project Developer to provide to City proof of payment.	Project Developer	City Community Development Department	Prior to issuance of building permits: to be paid up front or in installments in proportion to mitigated vehicle trip generation for the phase of Project for which the building permits are issued.
Geology and Soils				
GEO-1.1: Detailed Grading and Erosion Control Plan. A detailed grading and erosion control plan shall be prepared and submitted to the City Building Department. The plan shall cover all Project parcels (not just the landfill portions) and off-site areas and include all information required to demonstrate that earthwork activities will be in compliance with CCR 21190 et seq. and incorporate by reference the Project's Storm Water Pollution Prevention Plan, as required by the Construction General Permit.	Project Developer to provide detailed grading and erosion control plan for review and approval by City.	Project Developer	City Planning and Inspection Division	Prior to the issuance of demolition and grading, permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
GEO-2.1: Design-Level Geotechnical Investigation. Prior to the issuance of demolition, grading, or construction permits at the Project site, a design-level geotechnical investigation shall be conducted by a qualified professional (the qualified professional shall be retained by the Project Developer). The investigation shall include further field exploration (e.g., borings, cone penetration tests, test pits and/or geophysical surveys) to develop design-level recommendations to address erosion and other geotechnical concerns for the Project. The design-level geotechnical investigation shall include: • Evaluation of anticipated settlement. Additional soil borings shall be installed to determine the depth to the refuse layer for aid in preparing grading plans. Additional samples shall be analyzed to determine potential settlement and determine the likely final post-settlement surface elevation. The potential magnitude of differential settlements between improvements supported by a combination of structural slab and deep foundations and those that are supported by other foundation systems shall be fully analyzed and detailed in the design-level geotechnical report. • Evaluation of liquefaction potential. Additional borings shall be drilled at the Project site and off-site areas to fully characterize the liquefaction hazard associated with the Project. • Evaluation of slope instability. A detailed slope stability analysis for all existing slopes that would remain under the Project, including the perimeter landfill slopes, and all proposed new slopes shall be prepared. • Evaluation of expansive soils. Additional borings shall be drilled at the Project site and off-site areas to fully characterize the expansive soil hazard associated with the Project. • Evaluation of corrosive soils. Project site and off-site soils and, in those areas where foundation components would come into contact with landfill materials, refuse shall be evaluated for corrosion potential. The design-level geotechnical investigation work plan shall be submitted for review and approval in accordance with Mitigation Measure GEO-2.6.	Project Developer to provide design-level geotechnical investigation for review and approval by City. City and Developer to submit such investigation to regulatory agencies per GEO-2.6 with respect to areas underlain by landfill and secure approval as required. Project Developer to incorporate resulting measures into project plans.	Project Developer/ City	City Planning and Inspection Division	Prior to the issuance of demolition, grading, and building permits
GEO-2.2: Final Geotechnical Report Review. A final geotechnical report shall be prepared by a qualified professional based on the findings of the design-level geotechnical investigation (the qualified professional shall be retained by the Project Developer). The final report shall be submitted for review and approval in accordance with Mitigation Measure GEO-2.6. The final geotechnical report shall include: Measures to address anticipated settlement: • Specifications of methods to address differential settlement between improvements supported by a combination of structural slab foundations and those that are supported by other deep foundation systems or unsupported areas. • Exterior slabs and ramps attached to buildings shall be hinged to allow the end of the slab or ramp not attached to the building to move downward as settlement occurs. The design shall not allow building entrance slabs to exceed a 5 percent grade, in compliance with ADA access requirements, and vehicular entrances shall not be allowed to exceed an 11 percent grade to prevent vehicles from scraping during entry or exit. • Settlement vaults and flexible connections shall be required at locations where utilities transfer from a pile-supported building to a non-supported area for all phases of construction.	Project Developer to provide final geotechnical report for review and approval by City. City and Developer to submit such report to regulatory agencies per GEO-2.6 and secure approval as required. Project Developer to incorporate resulting measures into project plans.	Project Developer/ City	City Planning and Inspection Division	Prior to the issuance of grading and building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
• Roadway and other paving at the Project site not located above an area-wide structural slab shall be constructed with flexible materials, such as asphalt or interlocking pavers. The use of concrete and other non-flexible materials shall be minimized. Where non-flexible material is used, expansion and spacing joints that allow rigid materials to shift without breaking shall be used to allow for anticipated settlement. Measures to address liquefaction: • In those areas not supported by the structural slab foundation (which would effectively mitigate the liquefaction hazard), other measures shall be developed to mitigate the hazard, such as shallow footings constructed over ground improvement. Foundations for structures shall be designed to completely mitigate settlement hazards associated with liquefaction (i.e., no liquefaction-induced settlement damage shall be accepted for the final design). Measures to address slope instability: • Measures (e.g., reducing slope steepness, providing structural support, or ground improvement) to ensure that an appropriate factor of safety (both static and seismic) is achieved for each slope. Measures to address expansive soils: • In those areas not supported by the structural slab foundation (which would effectively mitigate the hazard), other measures shall be developed to mitigate the hazard, such as removal of the problematic soils, treatment of the soils, or specification of appropriate foundation design. If any soils characterized as highly or moderately expansive (linear extensibility of 3.0 percent or more) are to remain at the surface or be used as fill in the upper 5.0 feet, these soils shall be treated (using calcium-based treatment or similar approach) such that the soils are reduced to a low expansion potential (linear extensibility of less than 3.0 percent). Measures to address corrosive soils: • A corrosion consultant shall be retained to provide specific recommendations regarding the long-term corrosion protection of pile elements and other subsurface materials. The recommendations of the corrosion consultant, which may include use of specific corrosion-resistant materials and/or treatment of corrosive soils, shall be implemented during construction.				
GEO-2.3: Construction Quality Assurance Plan. A Construction Quality Assurance (CQA) Plan that covers both the Project site and off-site areas shall be prepared by the Project Developer for review and approval by the Director of Public Works. The CQA Plan shall establish procedures for testing final cover materials, detail the responsibilities of construction monitoring personnel, and provide procedures for addressing unexpected geologic conditions during grading activities.	Project Developer to provide a CQA Plan that covers both the Project site and off-site areas for review and approval by City. City and Developer to submit CQA to regulatory agencies per GEO-2.6 with respect to areas underlain by landfill and secure approval as required. Project Developer to submit to City applicable provisions of construction contracts incorporating requirements of CQA.	Project Developer	Director of Public Works	Prior to the issuance of grading, and building construction permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
GEO-2.4: Final Project Design Review. Final Project design plans that cover both Project site and off-site areas shall be prepared by the Project Developer and submitted for review and approval in accordance with Mitigation Measure GEO-2.6. Project site structures shall be designed to accommodate predicted ground settlement, as determined in the design-level geotechnical investigation for the Project improvements (see Mitigation Measure GEO-1.1). For the portion of the Project overlying the Landfill, the Post-Closure Land Use Plan shall demonstrate that Project design will be protective of public health and safety and the environment, as required by 27 CCR 21190. Because of the potential for encountering buried obstructions, contingencies for relocating Auger Cast-in Place Piles and Drilled Displacement Columns during construction shall be included in the foundation design. The Project design plans shall be subject to review and approval by the City Building Department prior to initiation of field activities.	Project Developer to provide final Project design plans meeting criteria of GEO-2.4 for review and approval by City. City and Developer to submit such Project design plans to regulatory agencies per GEO-2.6 with respect to areas underlain by landfill and secure approvals as required.	Project Developer/ City	City Planning & Inspection Division	Prior to issuance of grading and building permits
GEO-2.5: Site Operation, Monitoring, and Maintenance Plan. A Site Operation, Monitoring, and Maintenance Plan that covers both the Project site and off-site areas shall be prepared by the Project Developer and submitted for review and approval in accordance with Mitigation Measure GEO-2.6. The Site Operation, Monitoring, and Maintenance Plan shall establish procedures for inspecting structures and improvements as well as evaluating the effects of settlement. It will also establish a mechanism for funding and implementing the Plan's activities throughout the life of the Project. Inspections that focus on documenting settlement, particularly at locations where different support systems meet, shall take place at least quarterly during the first 2 years following the completion of each phase of Project construction. Documentation of each inspection shall be submitted to for review and approval in accordance with Mitigation Measure GEO-2.6 within 30 days of inspection completion. After 2 years, the frequency of inspections may be adjusted with written consent from each agency that approved the Site Operation, Monitoring, and Maintenance Plan Site Operation, Monitoring, and Maintenance Plan. The Site Operation, Monitoring, and Maintenance Plan shall detail the qualifications and responsibilities of monitoring personnel, including immediate notification of the City Building Department of any settlement that could affect the structural integrity of a building and/or structure or settlement that could create a hazard for the public (e.g., separations that create trip hazards for pedestrians). If the types of settlements are observed that could compromise structural integrity or cause hazards for the public, based on the judgment of the qualified inspector, remedial action shall be promptly completed. The Plan shall designate financial responsibility for remedial actions should the effects of settlement be identified and provide timetables for any required remedial action. All remedial action shall be overseen by the qualified geotechnical consultant designated by the Plan and approved by each agency that approved the Site Operation, Monitoring, and Maintenance Plan. Quarterly reports detailing inspection and remedial activities shall be submitted to each agency that approved the Site Operation, Monitoring, and Maintenance Plan following each inspection for review and approval.	Project Developer to provide Site Operation, Monitoring, and Maintenance Plan for review and approval by City. City and Developer to submit Site Operation, Monitoring, and Maintenance Plan to regulatory agencies per GEO-2.6 for areas underlain by landfill and secure approvals as required. Project Developer to submit inspections to City for review and approval, and to regulatory agencies as specified in GEO02.6 for areas underlain by landfill, within 30 days or inspections.	Project Developer/ City	City Planning & Inspection Division	Plan approval prior to issuance of grading and building permits. Inspections at least quarterly during the first 2 years following the completion of each phase of construction. Documentation of each inspection shall be submitted within 30 days of inspection.
GEO-2.6: Review and Approval by Relevant Regulatory Agencies. To the extent reports and plans required by Mitigation Measures GEO-2.1, -2.2, -2.3, -2.4 or -2.5 address the portion of the Project site overlying the Landfill, they shall be submitted jointly by the City (as owner and operator of the landfill) and the Project Developer for review and approval to the following: (i) the Local Enforcement Agency as principal landfill regulator; (ii) the Regional Water Board for approval of the issues related to the low permeability layer of the final landfill cover pursuant to 27 CCR 21990 (d) and pilings installed in or through the bottom liner of the landfill liner pursuant to 27 CCR 21990 (e)(6), and for review but not approval of other aspects of the plans and reports; (iii) to Cal Recycle	Refer to GEO-2.1 through GEO-2.5	Refer to GEO-2.1 through GEO-2.5	Refer to GEO-2.1 through GEO-2.5	Refer to GEO-2.1 through GEO-2.5

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
for review, but not approval; and (iv) any other agency which is specifically required by applicable law to approve a particular report, plan or component thereof. To the extent reports and plans required by this mitigation measure relate to other portions of the site not overlying the Landfill, they shall be submitted by the Developer to the City, and to any agency which is specifically required by applicable law to approve a particular report, plan or component thereof, for review and approval.				
Hydrology and Water Quality				
WQ-1.1: Design and Implement Stormwater Control Measures. In compliance with Provision C.3 of the San Francisco Bay MS4 Permit and the Santa Clara Valley Water District's 100-year peak flood requirements, post-construction stormwater controls shall be implemented to reduce total runoff rates and associated pollutant discharges. According to the Santa Clara Valley Urban Runoff Pollution Prevention Program's C.3. Stormwater Handbook, the three methods for hydraulically sizing flow-based stormwater treatment control measures are (1) volume-based, (2) flow-based, or (3) a combination of volume-/flow-based hydraulic sizing criteria. The simplified method for sizing bioretention areas and flow-through planters, known as the "4 percent method," is based on a runoff inflow of 0.2 inch per hour, with an infiltration rate through biotreatment soil of 5 inches per hour. The 4 percent method requires the treatment measure to be 4 percent of the impervious area that drains to it. The design of the stormwater treatment measures is currently at the conceptual level and further details will be addressed as part of the planning, construction, and operation of the development. The treatment measures shall be designed to remove pollutants from stormwater using filtration, infiltration, and sedimentation. Because infiltration is not feasible due to the landfill, the treatment measures must be built into the structure of the development above the landfill itself. The stormwater treatment measures that provide infiltration shall be lined with an impermeable liner on the bottom and sides. Just above the liner there must be a layer of clean gravel and a network of perforated piping (underdrains). These underdrains must connect to solid drain piping at the exit of the treatment area and ultimately be connected to the storm drainage infrastructure. All of these components shall exist above the podium structure. The impermeable liner would prevent any leaks or ruptures into the landfill and structures. There shall also be perforated underdrain piping connected to solid piping at the exit of the treatment measure/planter solid piping that will connect to the storm drain infrastructure at manholes where leak monitoring can be performed. More information on the potential hazards of a leak or rupture of the stormwater treatment measures causing flooding of the landfill gas venting lines is provided in Section 3.11, *Hazards and Hazardous Materials*. The following stormwater treatment (or Low Impact Development [LID]) measures are examples that will be considered and carefully selected as part of the final design process for the different sections of the proposed development: • Bioretention Areas (impermeable liner with underdrain—no infiltration into landfill) • Flow-through Planters • Tree Well and Media Filters • Infiltration Trenches (impermeable liner with underdrain—no infiltration into landfill) • Rainwater Harvesting and Reuse • Green Roofs • Green Streets (with bioretention, impermeable liner, and underdrain) • Pervious Pavements (impermeable liner with underdrain—no infiltration into landfill)	Project Developer to provide to City Stormwater Management Report.	Project Developer	Department of Public Works	Prior to issuance of building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
As noted above, a minimum of 4 percent of the site area shall be used for the stormwater treatment measures. As part of final design, these treatment measures for the Project site shall be incorporated into the aesthetics of the landscape. Some attenuation of the peak flows can be recognized, depending on the measures selected. The measures shall include an overflow to safely convey the more intense, less frequent rainfall events. The stormwater treatment measures shall capture sufficient flows so that 100-year peak flood elevations or existing design flows within San Tomas Aquino Creek and the Guadalupe River will not increase as part of the Project. The exact reduction in 100- year peak runoff volumes and flows that the stormwater management measures will need to accommodate will be determined during the design process for the stormwater management measures and will be provided in the detailed Project Stormwater Management Plan. Due to construction phasing, construction of interim treatment measures may be required once the 40-acre concrete pad has been constructed and before the surface of the pad is developed with new structures with their own associated post-construction stormwater treatment features. These interim measures will be reported to the San Francisco Bay Water Board. The stormwater management measures for each parcel shall be modeled during final design for buildings, parking garages, site landscaping, etc. Dynamic hydraulic modeling shall be used. Dynamic hydraulic modeling tracks the quantity and quality of runoff generated within each subcatchment as well as the flow rate, flow depth, and quality of water in each pipe and channel during a simulation period with multiple time steps. The results of the modeling shall be used to compare the proposed "permanent" stormwater peak flows and volumes for the Project with the existing peak flows and show compliance with the jurisdictional regulations. The dynamic hydraulic modeling shall consider the potential runoff volumes and rates coming from the top of the landfill. The resulting design of stormwater management measures shall be required to be sufficient to protect water quality and habitat resources along receiving waterways. A Stormwater Management Report, including detailed hydrologic and hydraulic calculations, analysis, and conclusions, shall be prepared to document the final design of the stormwater management and storm drain system and obtain the requisite approvals.				
WQ-3.1: Design New Bridge and Outfall Structures to Avoid Increase in 100-year Flow and Channel Erosion. In compliance with the Santa Clara Valley Water District's (SCVWD's) 100-year peak flood requirements, any new bridge and new outfalls in San Tomas Aquino Creek shall be designed to avoid increases in the 100-year flow and to avoid creek bed/channel erosion. The design shall also consider erosive action or redirection of flow during more frequent flood events in compliance with the City of Santa Clara's storm drainage design criteria[10] and consistent with SCVWD's guidance.[11] The outfalls will be set at elevations high enough to ensure the location of outfalls are above sediment levels within the bottom of the creek.[12] The design shall be provided to the City of Santa Clara and the SCVWD for review and approval for the Project. Construction would be done in phases. For example, the new bridge over the San Tomas Creek would not be needed until Phase 2 and outfalls to the eastside drainage ditch would not be needed until later phases. The	Project Developer to provide design for any new bridge or outfalls in San Tomas Aquino Creek or the eastside drainage channel for review and approval by City and submit to City evidence of approval from SCVWD.	Project Developer	Department of Public Works	Prior to the issuance of the building permit for the development that triggers the need for the outfall or associated construction activity

[10] City of Santa Clara. 2015. Design Criteria for Improvements in Public Right-of-Ways and City Easements. Public Works Department. April. Available: http://santaclaraca.gov/home/showdocument?id=14345. Accessed 12/29/15.

[11] Santa Clara Valley Water District. 2006. *User Manual: Guidelines & Standards for Land Use Near Streams*. A Manual of Tools, Standards, and Procedures to Protect Streams and Streamside Resources in Santa Clara County. Prepared by the Santa Clara Valley Water Resources Protection Collaborative. Originally adopted in August 2005. Revised: July 2006.

[12] Outfalls and work within the SCVWD right-of-way are subject to approval and issuance of permits by the SCVWD.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
design review approval of outfalls shall occur prior to the issuance of the building permit for the development that triggers the need for the outfall or associated construction activity, and on a schedule similar to the phases of construction.				
WQ-3.2: Vegetation Removal from the Retention Basin Drainage Swale. In accordance with the Retention Basin Drainage Swale Vegetation Clearing Project, and prior to the placement of new impervious surfaces on Parcels 1 or 2, overgrown tule and cattails shall be removed from the entire length of the drainage swale to restore the swale's flood protection capacity and protect residents and businesses. Vegetation in the drainage swale shall be mowed by hand using rotary mowers, and tule and cattails shall be cut down to 3 to 4 inches above the ground surface. The clippings shall be loaded by hand and hauled from the drainage swale to the Retention Basin where the vegetation will dry out. Once dry, the vegetation shall be transported to the Newby Island Landfill. It is estimated that initial removal of overgrown vegetation will generate approximately 300 cubic yards of debris. Prior to performance of this work, all necessary permits shall be obtained from environmental regulatory agencies for this vegetation removal, including any required compensation for loss of wetland/riparian vegetation.	City and Project Developer to execute an agreement to reimburse City for the one-time costs of removing vegetation from the swale (including compliance with any permit conditions requiring onsite actions to do so) as needed to restore flood protection capacity suitable to support the Project. City to be responsible for obtaining any necessary permits and for any maintenance of the swale thereafter.	Project Developer	Department of Public Works	Agreement executed prior to issuance of grading and building permits on Parcels 1 or 2. Vegetation removal complete prior to issuance of a certificate of occupancy for the first building on Parcels 1 or 2.
Hazards and Hazardous Materials				
HAZ-2.1: Finalize Waste Management Plan for Construction. Prior to Project construction, a final Waste Management Plan shall be prepared and implemented. This plan shall be submitted to the LEA, CalRecycle, Regional Water Board, and BAAQMD for review and approval. Specifically, the final Waste Management Plan shall contain, at a minimum, the following requirements, which are included in the draft Waste Management Plan: • Waste excavation shall be performed in accordance with a Health and Safety Plan (HASP) designed to minimize impacts from dust, odor, and other nuisances, and assure waste is handled in a safe and environmentally responsible manner. • During waste excavation and relocation, the worksite shall be monitored for dust, odor, or other nuisances in accordance with general landfill construction practices and the HASP. • At the end of the working day, any exposed waste shall be covered with soil or an alternative material, such as a geosynthetic blanket, (i.e., interim cover). • Odors, should they occur, shall be controlled by application of a deodorant, masking agent, neutralizing agent, or lime, and an interim landfill cover at the end of each working day. • A "Project Contact" shall be designated who will be responsible for responding to any local complaints about dust, odors, or other nuisances associated with the waste excavation and regrading operations. • During excavation activities, excavation areas shall be monitored using a hand-held instrument calibrated to measure combustible gases (including methane), hydrogen sulfide, oxygen, and VOCs. • No hot work (e.g., welding) shall be allowed in the vicinity of excavation activities unless methane concentrations are sufficiently below the lower explosive limit of 8 percent. If methane concentrations approach 5 percent, excavation activities shall be stopped until the landfill gas collection system can be modified to reduce the methane concentrations in the excavation area. If methane levels are persistent in areas where earthwork and/or hot work activities are necessary,	Project Developer to provide to City final, approved Waste Management Plan. City to verify that final Waste Management Plan includes all required components and all necessary approvals.	Project Developer	Department of Public Works	Plan approved by pertinent agencies must be submitted to City prior to issuance of demolition, grading, and building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
inert gases (e.g., nitrogen) can be introduced into affected subsurface materials to lower oxygen and methane concentrations. By introducing an inert gas into the affected area, methane and oxygen can be displaced to create insufficient oxygen concentrations to support combustion.				
HAZ-4.1: Landfill Closure, Monitoring, and Maintenance Plans.[13] Prior to issuance of building permits for structures within the area of the Landfill (Parcels 1, 2, 3, and 4), a revised Closure Plan and Post-Closure Maintenance Plan (PCMP) shall be prepared in accordance with the regulatory requirements described in 27 CCR 21790–21840 and submitted to the LEA, CalRecycle, and Regional Water Board (as required) for review and approval. In addition, a PCLUP shall be prepared in accordance with the regulatory requirements described in 27 CCR 21190 and submitted to the LEA and Regional Water Board (as required) for review and approval. Collectively, these plans shall incorporate the requirements of Mitigation Measures HAZ-4.2 through 4.6, below. In addition, the Project Developer shall continue to work with the regulatory agencies (Regional Water Board, LEA, or CalRecycle) and ensure the implementation of all elements and measures necessary to mitigate Project-related health risks to residents and commercial workers to a level below the Regional Water Board's cumulative incremental cancer risk threshold of 1E-06 and hazard index (HI) (i.e., adverse non-cancer risk) of 1.0 established for the Project are implemented.	Project Developer to provide to City for its review and approval revised Closure Plan, Post-Closure Maintenance Plan and Post Closure Land Use Plan that include evidence that health risks can be mitigated to identified levels and contain all elements of HAZ 4.2 through 4.6. City to submit these Plans to the Regional Water Board, LEA, and CalRecycle for their approval. City and Project Developer/Master Owner Association to implement the actions required by these Plans in accordance with the allocation of responsibilities set forth in the Landfill O&M Agreement attached to the DDA.	Project Developer/City	Department of Public Works	Prior to issuance of grading or building permits within the area of the Landfill (Parcels 1, 2, 3, and 4)
HAZ-4.2: Landfill Gas Collection and Removal System.[14] During Project construction, the existing landfill gas collection and removal system (i.e., wells and conveyance lines) shall be systematically abandoned and replaced in conjunction with the phased Project site development while complying with applicable regulatory requirements that govern the performance of these systems. The new system shall be designed to effectively draw landfill gases (e.g., methane, hydrogen sulfide, and volatile COPCs) away from building sub-slab areas. The system design shall be submitted to the City for review and approval, taking into account an evaluation of the following criteria: effective vacuum influence (based on pilot testing and pneumatic modeling), vacuum distribution control, oxygen management (for subsurface fire prevention), ease of maintenance, well location, effect of landfill settlement, mitigation of vapor intrusion risk, and the proposed development on the Project site. The system design shall incorporate temperature- and corrosion-resistant materials. The landfill gas collection and removal system shall be designed, operated, and maintained to control excessive gas concentrations as specified in 27 CCR 20939. The monitoring of landfill gases is described under Mitigation Measures HAZ-4.4, below.	Project Developer to submit to City system design for review and approval. City to submit system design to the Regional Water Board, LEA, and/or CalRecycle for their approval, as required by the relevant regulations and approved plans. City to operate and maintain the system in accordance with the allocation of responsibilities set forth in	Project Developer/City	Department of Public Works	Prior to the issuance of grading or building permits within the area of the Landfill (Parcels 1, 2, 3, and 4)

[13] To the extent the implementation of this mitigation measure at Parcel 3 is made necessary by, or altered by, the City's park development activities, the City shall be responsible for implementation.

[14] To the extent the implementation of this mitigation measure at Parcel 3 is made necessary by, or altered by, the City's park development activities, the City shall be responsible for implementation.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
	the Landfill O&M Agreement attached to the DDA.			
HAZ-4.3: Landfill Gas Protection Systems.[15] During Project construction, landfill gas protection systems shall be constructed beneath the sub-slabs of structures located on Parcels 1, 2, 3, and 4 to remove landfill gases (e.g., methane, hydrogen sulfide, and volatile COPCs) that could otherwise accumulate and/or migrate through the sub-slab. The systems may include active gas collection or passive ventilation mechanisms and shall meet the minimum design requirements described in 27 CCR 21190. The landfill gas protection systems shall be designed, operated, and maintained to control excessive gas concentrations as specified in 27 CCR 20939. The monitoring of landfill gases is described under Mitigation Measures HAZ-4.4, below.	Project Developer to provide plans to City for review and approval and "as built" drawings to City once work is complete. System will be operated by Project Developer until a Master Owners Association is formed, after with system will be operated by Master Owners Association.	Project Developer/ Master Owner Association	Department of Public Works	Prior to issuance of building permits for Parcels 1, 2, 3, and 4, with "as built" drawings submitted prior to any certificates of occupancy on such sites
HAZ-4.4: Landfill Gas Monitoring and Control System Maintenance.[16] During Project construction and operation on Parcels 1-4, a landfill gas monitoring and control program shall be implemented in accordance with 27 CCR 20921-20939. The gas monitoring network shall be designed by a registered civil engineer or a certified engineering geologist and shall ensure detection of the presence of landfill gas migrating beyond the disposal site permitted facility boundary and also into on-site structures. The monitoring network design shall include provisions for monitoring all structures on the Project site, including but not limited to, buildings, large subsurface vaults, or any other areas where potential landfill gas buildup may cause adverse impacts on the public health or safety or the environment. Methods for monitoring on-site structures may include, but are not limited to: periodic monitoring, utilizing either permanently installed monitoring probes or gas surveys, and continuous monitoring systems. A methane monitoring system shall be installed inside all buildings on the Project site. If methane gas concentrations exceed a threshold of 1.25 percent by volume in air, as described under 27 CCR 20921, the methane monitoring system shall automatically alert the Santa Clara Fire Department, who shall assess the methane conditions and, if necessary, trigger an audible fire alarm to initiate a building evacuation. In the event of an evacuation, the building shall not be reoccupied until the Santa Clara Fire Department has confirmed and approved by that: (1) concentrations of methane meet the applicable compliance requirements and (2) the landfill gas monitoring and control system is operating in a manner that ensures adequate control of methane/ vapor intrusion.	Project Developer to provide landfill gas monitoring network plans and Operations and Maintenance Plan to City for review and approval. City to submit these Plans to the Regional Water Board, LEA, and/or CalRecycle for their approval, as required by relevant regulations and approved plans. City and Project Developer/Master	Project Developer/ Master Owners Association/City	Department of Public Works	Prior to issuance of grading and building permits for Parcels 1, 2, 3, and 4
The landfill gas control system shall be operated and maintained to control excessive gas concentrations as specified in 27 CCR 20939. This includes operating the landfill gas control system in such a manner as to satisfy the following requirements specified in 27 CCR 20921(a): • The concentration of methane gas must not exceed 1.25 percent by volume in air within any portion of any on-site structures;	Owners Association to implement the actions required by these Plans in accordance with the allocation of responsibilities set forth in the Landfill O&M Agreement attached to the DDA.			

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Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
• The concentration of methane gas migrating from the disposal site must not exceed 5 percent by volume in air at the disposal site permitted facility boundary or an alternative boundary approved in accordance with Section 20925; and • Trace gases shall be controlled to prevent adverse acute and chronic exposure to toxic and/or carcinogenic compounds that could result in a health risk exceedance of the Regional Water Board's cumulative incremental cancer risk threshold of 1E- 06 and HI (i.e., adverse non-cancer risk) of 1.0 established for the Project. In the event of an earthquake or other event that could cause a rupture or leak from overlying stormwater treatment measures (i.e., planters, vegetated areas), the landfill gas venting pipes shall be inspected at access ports within 24 hours of the event for leaks, ruptures, or any other conditions. Access ports shall be installed at select locations, to provide full coverage of the system based on system design and access constraints, within the venting layer to monitor for the presence of, and removal of, water that might flood the system in the event that water leaks from collection systems above the landfill gas mitigation system. This system would help prevent the water from further migrating into the underlying landfill gas mitigation system. The access ports will allow for use of portable moisture sensing devises to periodically monitor for moisture in the event that a leak is suspected. The access ports shall also be designed to allow for pumping of water from the interstitial space in the event that water is detected. In addition to the monitoring and control of excessive gas concentrations to protect public health and safety and the environment, as specified in 27 CCR 20939, the landfill gas monitoring and control program shall incorporate the monitoring and control requirements for preventing subsurface fires that are described under Mitigation Measure HAZ-9.1, below.				
HAZ-4.5: Building Restrictions. The Project shall prohibit the construction of enclosed basements located over refuse on Parcels 1, 2, 3, and 4 to minimize the risk of landfill gas accumulation. Over the landfill area, the Project shall also limit residential construction to only Parcel 4 areas located over open-air podium level garages or over at least one level of enclosed commercial space to mitigate vapor intrusion effects by increasing the free flow and exchange of air beneath the residences.	Project Developer to submit final detailed design plans for review and approval by City.	Project Developer	Department of Public Works	Concurrent with building permit application
HAZ-4.6: Landfill Hazards Disclosure. Information about the existing subsurface hazardous materials conditions and the ongoing mitigation and monitoring requirements described in the PCLUP shall be included in all ground leases and space leases for space located over the Landfill. The text to be inserted shall be subject to review and approval by City.	Project Developer and City to include language in ground and tenant leases for space located over the landfill.	Project Developer/City	Department of Public Works	Prior to execution of ground or tenant leases
HAZ-5.1: Phase II Site Investigation. Prior to Project construction, a Phase II Site Investigation shall be performed on Parcel 5 and the tennis courts located in the southwest portion of Parcel 4 to (1) delineate the extent of soil, soil gas, and potential groundwater contamination on the site and (2) assess potential health risks posed to construction workers and future site users. The Phase II Site Investigation shall be conducted and evaluated by a licensed professional prior to construction and earthwork activities. The findings of the Phase II Site Investigation shall be submitted to the appropriate regulatory agency to the extent required by applicable law. The Project Developer shall conduct any additional investigation and/or risk assessment and/or implement any remedial or risk mitigation measures required by the regulatory agency.	If additional remedial or risk mitigation measures are needed, Project Developer to submit plans to City for review and approval.	Project Developer	Department of Public Works	Prior to issuance of grading and building permits for Parcel 5 and the portion of Parcel 4 beneath the existing tennis courts.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
HAZ-5.2: Soil and Groundwater Management Plan. Construction on Parcel 5 and the tennis courts located in the southwest portion of Parcel 4 shall be conducted under a site-specific Soil and Groundwater Management Plan (SGMP) to protect construction workers, the general public, and the environment from hazardous materials identified in the Phase II Site Investigation (see Mitigation Measure HAZ-5.1) and potential undocumented sources of such materials. The SGMP shall delineate specific soil and groundwater management and disposal procedures, construction worker health and safety requirements, and contingency measures in case unknown contamination is encountered during construction. The SGMP shall incorporate the soil and groundwater analytical data from the Phase II Site Investigation to ensure that soil and groundwater are stored, managed, and disposed of in a manner protective of human health and the environment, and in accordance with applicable laws and regulations. The SGMP shall specifically include the following: • Procedures for evaluating, handling, storing, testing, and disposing of known soil • and groundwater contamination identified during the Phase II Site Investigation during Project excavation and dewatering activities, respectively; • Procedures for identifying, testing, and managing soil and groundwater suspected of containing hazardous materials (if any) that have not previously been identified at the site; • Descriptions of required worker health and safety provisions for all workers potentially exposed to hazardous materials in accordance with State and federal worker safety regulations; and • Identification of personnel responsible for implementation of the SGMP.	City to review and approve a Soil and Groundwater Management Plan pertaining to Parcel 5 and the portion of Parcel 4 beneath the existing tennis courts.	Project Developer	Department of Public Works	Prior to issuance of grading and building permits for Parcel 5 and the portion of Parcel 4 beneath the existing tennis courts
HAZ-5.3: Implement Measures Included in CCR Title 27, Section 21190(g). Consistent with the Project Developer's voluntary commitment, in order to mitigate gas migration into structures located within 1,000 feet of landfill, the City (as owner and operator of the landfill) and the Project Developer shall implement the following measures identified in Title 27, Section 21190(g), with respect to development on Parcel 5 and the southwest portion of Parcel 4: (1) a geomembrane or equivalent system with low permeability to landfill gas shall be installed between the concrete floor slab of the building and subgrade; (2) a permeable layer of open graded material of clean aggregate with a minimum thickness of 12 inches shall be installed between the geomembrane and the subgrade or slab; (3) a geotextile filter shall be utilized to prevent the introduction of fines into the permeable layer; (4) perforated venting pipes shall be installed within the permeable layer, and shall be designed to operate without clogging; (5) the venting pipe shall be constructed with the ability to be connected to an induced draft exhaust system; (6) automatic methane gas sensors shall be installed within the permeable gas layer, and inside the building to trigger an audible alarm when methane gas concentrations are detected; and (7) periodic methane gas monitoring shall be conducted inside all buildings and underground utilities in accordance with Article 6, of Subchapter 4 of this chapter (section 20920 et seq.). At a minimum, quarterly monitoring is required, but more frequent monitoring may be required by LEA (Subchapter 4, section 20933(a)).	City to review and approve detailed construction plans including these measures for Parcel 5 and the areas of Parcel 4 beneath the existing tennis courts. Project Developer shall submit quarterly reports that report methane gas levels for review by City.	Project Developer	Department of Public Works	Prior to issuance of building permits for Parcel 5 and the areas of Parcel 4 beneath the existing tennis courts; quarterly monitoring

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
HAZ-6.1: Finalize Draft Technical Memorandum: Leachate Collection and Removal System.[17] Prior to Project construction, a final Technical Memorandum: Leachate Collection and Removal System shall be prepared and implemented as part of the PCLUP. The technical memorandum shall be submitted to the LEA for review and approval and to CalRecycle and the Regional Water Board for review and comment. Specifically, the final technical memorandum shall contain, at a minimum, the following requirements: • During the construction phase of Parcel 3, the existing leachate collection and removal system (LCRS) risers LR-1 and LR-4 shall be protected and preserved during construction by flagging the well head locations, extending the risers, and installing a bollard around each riser. • If LR-1 or LR-4 are damaged during construction, repairs and modifications shall be completed promptly. • LR-1 and LR-4 shall be supported and anchored to prevent potential settlement over time and finished to grade at the end of excavation and/or completion of construction. • Ongoing operation and maintenance of the leachate recovery system shall continue during and after Project construction. The LCRS monitoring shall continue in accordance with the Regional Water Board's WDR Order No. R2-2002-0008 for the site, which shall be revised to consider the proposed development and modifications to the landfill systems.	Project Developer to submit to City for its review and approval a Leachate Collection and Removal System Technical Memorandum. City to submit to LEA for review and approval and to CalRecycle and the Regional Water Board for review and comment. As part of the PCLUP City to operate and maintain the leachate recovery system in accordance with the allocation of responsibilities set forth in the Landfill O&M Agreement attached to the DDA.	Project Developer/City	Department of Public Works	Submittal of Memo: Prior to issuance of grading or construction permits for Parcels 1 and 3.
HAZ-9.1: Subsurface Fire Prevention, Detection, and Response Plan.[18] Prior to construction, a Subsurface Fire Prevention, Detection, and Response Plan shall be prepared that describes how subsurface heating conditions above the landfill will be monitored, prevented, and suppressed. The plan, which may be included as part of a larger planning document, shall identify responsible parties and schedules for implementing the measures described in the plan. The Project Developer shall submit the plan to the LEA, CalRecycle, and the Santa Clara Fire Department (SCFD) for review and comment. Responses to comments shall be incorporated into a final Subsurface Fire Prevention, Detection, and Response Plan from the regulatory agencies. The plan shall also incorporate the prevention, detection, and response actions described under Mitigations HAZ-9.2 and HAZ-9.3, below, unless alternative actions are approved by LEA, CalRecycle, and SCFD. The final plan shall be implemented during Project construction and operation.	Project Developer to submit to City a Subsurface Fire Prevention, Detection, and Response Plan that has been reviewed and commented on by relevant agencies. The Plan shall be implemented consistent with the Landfill Operations and Maintenance Agreement.	Project Developer	Department of Public Works	Submittal of Plan prior to issuance of grading or construction permits for Parcels 1, 2, 3, and 4. Implementation during Project construction and operation

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Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
HAZ-9.2: Subsurface Fire Prevention and Detection Measures.[19] The following measures may be included in whole, or in part, in the Subsurface Fire Prevention, Detection, and Response Plan, as required by the LEA, CalRecycle, and SCFD. In addition, these agencies may require additional measures. The landfill gas collection system shall be monitored and maintained to minimize the intrusion of oxygen (i.e., air) into the landfill and prevent the overheating of waste due to aerobic decomposition. In accordance with BAAQMD monitoring requirements (Regulation 8-34), the gauge pressure, nitrogen or oxygen concentration, and temperature of landfill gas within each extraction wellhead shall be monitored once a month and evaluated to ensure the system is not overdrawing air into the landfill. The nitrogen and oxygen concentrations may be measured using a calibrated portable instrument. The landfill gas measured at each extraction well head must meet the following monitoring threshold requirements: • Nitrogen concentrations less than 20 percent or oxygen levels less than 5 percent; and • Maximum temperature of 140 degrees Fahrenheit. The nitrogen and oxygen thresholds shall be used to indicate if the gas collection system is overdrawing and causing excessive ambient air infiltration into the landfill through its surface and sides. An exceedance of the maximum temperature threshold shall indicate that a subsurface fire may exist. Other evidence of a potential subsurface fire shall include the following: • Observations of rapid settlement over a short period of time; • Smoke or smoldering odor emanating from the gas extraction system or landfill; or • Combustion residue in extraction wells and/or headers. The landfill gas collection system shall be adjusted to reduce well extraction rates (if necessary) to ensure the monitoring thresholds for nitrogen/oxygen and temperature are not exceeded, while continuing to ensure the control of other excessive gas concentrations in the landfill (e.g., methane and trace gases) as specified in 27 CCR 20939. In the event that one or both of the monitoring thresholds are exceeded or other evidence of a potential subsurface fire is observed, then gas samples shall be collected from the extraction wells in the affected area and submitted to a certified laboratory for analysis of nitrogen, oxygen, and carbon monoxide. Analytical results for nitrogen and oxygen that exceed the monitoring thresholds shall be used as confirmation that an aerobic environment is present. Analytical results for carbon monoxide that exceed 1,000 parts per million shall be used as confirmation that a subsurface fire exists.	Project Developer to integrate these measures into the Subsurface Fire Prevention, Detection, and Response Plan as requested by relevant agencies.	Project Developer	Department of Public Works	Submittal of Plan: Prior to issuance of grading or construction permits for Parcels 1, 2, 3, and 4. Implementation during Project construction and operation
HAZ-9.3: Subsurface Fire Suppression. If a subsurface fire condition has been confirmed (i.e., carbon monoxide level exceed 1,000 parts per million), the LEA, CalRecycle, and SCFD shall be notified immediately. The extraction wells surrounding the subsurface fire shall be shut down temporarily to reduce oxygen levels. The extraction wells shall then be returned to active use in stages in conjunction with monitoring to determine if the subsurface fire has been suppressed. If shutting down the extraction wells does not suppress the fire and/or results in the excess accumulation of methane and other trace gases beneath structures, then the LEA, CalRecycle, and SCFD shall consider injecting a Class A foam or wetting agent or liquid carbon dioxide (which also has the added benefit of rapidly cooling the refuse/fill) into the affected area. Large amounts of water shall not be used, because water can exacerbate the fire potential, generate contaminated runoff, increase leachate, and cause slope failure.	City to ensure that SCFD is aware of and trained on protocols. Project Developer and/or City to notify agencies if a subsurface fire condition is confirmed and to implement subsurface fire suppression measures.	Project Developer/ City	City Planning & Inspection; SCFD	Prior to operation of Project over landfill areas for SCFD protocols. After confirmation of a subsurface fire condition as to agency notification

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Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing[1]
Utilities and Service Systems				
UT-3.1: Make a Fair-Share Contribution to Upgrading the Rabello and Northside Pump Station System's Capacity. The City will conduct detailed engineering study and analysis to determine the precise size and timing needed for the required pump station capacity upgrades to address overcapacity due to projected cumulative development. The City will implement the required capacity upgrades and the Developer will fund its fair share of such upgrades. The City shall determine the fair- share cost contribution for the Project based on the Project's percent of wastewater flow cumulative capacity needs above the current pump capacity (based on conceptual planning to date, that fair share is estimated as 27 percent of 2035 cumulative overcapacity amount). The City may require the Developer to fund the design and construction of the conveyance capacity upgrades to the Rabello and Northside Sanitary Sewer Pump Stations concurrent with construction of Phase 2 of the Project; the pump station upgrades would be designed to address overcapacity due to projected cumulative development. If the Developer is required to fund pump station upgrade costs, with the exception of costs attributable to the Project's fair share contribution to the upgrade, the City would reimburse the Developer for the design and construction costs through first (a) refunding the Project's Sanitary Sewer Conveyance Fees already paid by Developer or crediting those fees when due and (b) providing to Developer Sanitary Sewer Conveyance Fees collected from developers of projects that would use the Rabello and Northside Sanitary Sewer Pump Stations.	Conduct a detailed engineering study and analysis to determine the precise size and timing needed for the required pump station capacity upgrades to address overcapacity due to projected cumulative development. Project Developer to contribute fair-share, and potentially front costs of full upgrade.	Department of Public Works	City Planning & Inspection	Conduct study prior to construction of Phase 2 of the Project, fund prior to issuance of first building permit for Phase 2 of the Project or later as otherwise determined necessary by City; if Developer to fund full pump station upgrade costs, Developer and City enter funding and reimbursement agreement prior to upgrade

RELATED SANTA CLARA DAP 1, PHASE 1 PROJECT – SECONDARY IMPACTS FOR INTERSECTION IMPROVEMENTS PLANNING/ CEQA FILE # PLN2019-14186 (PLN2014-10554/CEQ2014-01180) PLN2014-10554/CEQ2014-01180

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
Transportation				
IM-TRA-1: Prepare and Implement a Construction Traffic Control Plan. Prior to issuance of grading permits, the construction contractor will develop the traffic control plan in accordance with the appropriate jurisdiction's policies and submit for approval. The plan will be implemented throughout the course of construction and may include, but will not be limited to, the following elements. • Limit truck access to the intersection during peak commute times (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 pm.). • Require that written notification be provided to contractors regarding appropriate • routes to and from the intersection, and the weight and speed limits on local roads used to access the intersection. • Provide access for emergency vehicles at all times. • Provide adequate parking for construction employees, site visitors, and inspectors as feasible. • Maintain bicycle and pedestrian access and circulation during Project construction where safe to do so. If construction encroaches on a bike lane, warning signs will be posted that indicate bicycles and vehicles are sharing the roadway. If construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk. • Require traffic controls in the vicinity of the intersection, including flagpersons with bright orange or red vests and using a "Stop/Slow" paddle to control oncoming traffic. • Post standard construction warning signs in advance of the construction area and at any intersection that provides access to the construction area. • Repair or restore the road right-of-way to its original condition or better upon completion of the work.	Project Developer to prepare and submit a Construction Traffic Control Plan for the purpose of managing traffic and reducing traffic congestion during construction. City to review and approve Plan.	Project Developer/ Project Contractor	Department of Public Works	Prior to issuance of grading and building permits
Air Quality				
IM-AQ-1: Implement Measures to Reduce Construction-Related Dust Emissions. The Project Developer shall require all construction contractors to implement the specific construction mitigation measures below to reduce fugitive dust. Emissions reduction measures shall include, at a minimum, the measures below. Alternative measures may be identified by the Project Developer or its contractor, as appropriate, provided that they are as effective as the measures below. Alternative measures shall be submitted to the City for approval. • All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. If water infiltration into landfill refuse layers is a concern, non-toxic soil stabilizers may be used instead. • All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph for a period of 2 hours or more. • Windbreaks (e.g., fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Windbreaks shall have at maximum 50 percent air porosity.	Project Developer to provide to City applicable provisions of construction contracts specifying construction mitigation measures to reduce construction- related dust emissions.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to issuance of grading and building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
• Exposed ground areas that are to be reworked more than 1 month after initial grading should be sown with fast-germinating native grass seed and watered appropriately until vegetation is established. If grass seeding is not feasible, then non-toxic soil stabilizers may be used. • All construction trucks and equipment, including tires, involved in ground disturbance or transit through loose soil areas shall be washed off prior to leaving the site. • Site accesses to a distance of 25 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel. Alternatively, a rumble plate may be used in place of chips, mulch, or gravel. • Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.				
IM-AQ-2: Implement Measures to Reduce Construction-Related Exhaust Emissions. The Project Developer shall require all construction contractors to implement the specific construction mitigation measures below to reduce equipment exhaust emissions. Emission reduction measures shall include, at a minimum, the measures below. Alternative measures may be identified by the Project Developer or its contractor, as appropriate, provided that they are as effective as the measures below. Alternative measures shall be submitted to the City for approval.	Project Developer to provide to City applicable provisions of construction contracts construction mitigation measures to reduce construction-related exhaust emissions.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to issuance of grading and building permits
• Idling time of diesel powered construction equipment shall be limited to 2 minutes. • Ensure that all off-road diesel-powered equipment used during construction between 2017 and 2022 is equipped with U.S. Environmental Protection Agency (EPA) Tier 3 or cleaner engines, except for specialized construction equipment for which an EPA Tier 3 engine is not available. Consistent with advancements of the statewide fleet average, the Project Developer shall ensure that all off-road diesel- • powered equipment used during construction between 2023 and 2030 is equipped with EPA Tier 4 engines. This requirement will ensure construction equipment remains cleaner than the fleet-wide average. • Ensure that all on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Project site comply with EPA 2007 on-road emissions standards for particulate matter of 10 micrometers or less (PM10) and nitrogen oxides (NO_X) (0.01 grams per brake horsepower-hour [g/bhp- hr] and 0.20 g/bhp-hr, respectively). • Notwithstanding the above requirements, all construction equipment, diesel trucks, and generators shall meet the California Air Resources Board's most recent certification standard for off-road heavy-duty diesel engines and shall employ Best Available Control Technology for reductions in NO_X and particulate matter (PM) emissions if more stringent than the requirements above.				

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
Greenhouse Gas Emissions				
IM-GHG-1: Utilize Alternative Fuels during Construction. Require construction contractors to use alternative fuels in at least 30 percent of the construction equipment that uses diesel fuel. Alternative fuels may include electricity, compressed natural gas (CNG), biodiesel (B-20), or renewable diesel, such as diesel high- performance renewable (HPR).	Project Developer to provide to City applicable provisions of construction contracts requiring adequate use of alternative fuels.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to issuance of grading and building permits
Cultural Resources				
IM-CR-1: Conduct Cultural Resource Investigations and Protect and Recover Significant Resources. The Lead Agency shall conduct a cultural resource investigation that includes a background records search (including a search of records from Sonoma State and historical societies, contact with Native American representatives identified by the Native American Heritage Commission (NAHC), and site pedestrian surveys) for the areas of ground disturbance from each roadway improvement. If significant known or suspected sites are discovered within the Project footprint and would be disturbed by the Project, then a cultural resource treatment plan shall be prepared, defining Project monitoring and resource recovery and curation requirements concerning any encountered cultural resources.	Lead Agency to conduct a cultural resource investigation that includes a background records search during ground disturbance. If necessary, Lead Agency to prepare and execute cultural resource treatment plan.	City Planning & Inspection Division	City Planning & Inspection Division	Prior to issuance of grading and building permits
IM-CR-2: Stop Work if Cultural Resources Are Encountered during Ground- Disturbing Activities. In the event that cultural resources are encountered during ground-disturbing activities, all work within proximity of the find shall temporarily halt so that the archaeological monitor can examine the find and document its provenience and nature (e.g., with drawings, photographs, written descriptions). The archaeological monitor shall then direct that the work proceed if the find is deemed to be insignificant, continue elsewhere, or cease until adequate mitigation measures are adopted. If the find is determined to be potentially significant, the archaeologist, in consultation with the appropriate jurisdiction, shall develop a treatment plan, which could include site avoidance, capping, or data recovery. If data recovery is determined to be appropriate, excavation shall target recovery of an appropriate amount of information from archaeological deposits to determine the potential of the resource to address specific research questions. If it occurs, data recovery shall emphasize the understanding of the archaeological deposit's structure, including features and stratification, horizontal and vertical extent, and content, including the nature and quantity of artifacts.	Archaeological monitor (retained by the Project Developer), as necessary, and in consultation with the City, develop a Treatment Plan.	Project Developer/ Qualified Archaeologist	City Planning & Inspection Division	During construction if cultural resources are encountered
IM-CR-3: Stop Work if Human Remains Are Encountered during Ground- Disturbing Activities. If human remains are discovered (in either an archaeological or construction context), all work within proximity of the remains shall stop so that the archaeological monitor can examine the remains. The County Coroner shall be notified to make a determination as to whether the remains are of Native American origin. If the remains are determined to be Native American, the coroner shall notify the NAHC immediately. The NAHC shall notify those persons it believes are most likely descended from the deceased Native American. Once the NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the State CEQA Guidelines.	Project Developer to submit to City applicable provisions of construction contracts including applicable requirements.	Project Developer/ Project Contractor	County Coroner/ NAHC	Prior to issuance of grading and building permits.

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
Biological Resources				
IM-BIO-1: Replace Removed Trees. The Project Developer shall replace all trees removed as part of the intersection improvements in accordance with the tree preservation policies or ordinances of the jurisdiction in which the improvements are constructed.	Project Developer to provide to City report documenting plans to replace all trees removed as part of the intersection improvements.	Project Developer	City Planning & Inspection Division	Prior to issuance of grading and building permits
IM-BIO-2: Preconstruction Surveys. For all intersections that have trees within the intersection footprint or that will remove trees, the Project Developer and its contractors shall avoid conducting vegetation removal during the migratory bird nesting season (February 1–August 31), if feasible. If construction activities must commence during the migratory bird nesting season, the Project Developer shall retain a qualified wildlife biologist to conduct a survey for nests of migratory birds. Surveys for nesting migratory birds shall occur within 3 days prior to the commencement of ground disturbance and vegetation removal. If an active nest is discovered, a no-disturbance buffer zone around the nest tree or shrub (or, for ground-nesting species, the nest itself) shall be established. The no- disturbance zone shall be marked with flagging or fencing that is easily identified by the construction crew and shall not affect the nesting bird or attract predators to the nest location. In general, the minimum buffer zone widths shall be as follows: 50 feet (radius) for non-raptor ground-nesting species, 50 feet (radius) for non-raptor shrub- and tree-nesting species, and 300 feet (radius) for raptor species. Buffer widths may be modified based on discussion with the California Department of Fish and Wildlife (CDFW). Buffers shall remain in place as long as the nest is active or young remain in the area and are dependent on the nest. If a burrowing owl nest is identified during preconstruction surveys, no-activity buffers will adhere to the recommendations in the 2012 California Department of Fish and Game Staff Report on Burrowing Owl Mitigation.	Project Developer to provide to City provisions of construction contracts including pertinent requirements. If construction occurs in the nesting season, Project Developer to submit to City agreement with qualified wildlife biologist requiring surveys and protective measures.	Project Developer/Project Contractor/ Qualified wildlife biologist	City Planning & Inspection Division	Prior to issuance of grading and building permits for biologist and construction contracts; prior to commencement of grading for biologist agreements; and prior to ground disturbance for surveys
IM-BIO-3: Site-Specific Surveys and Species/Habitat Avoidance, Minimization, and Compensation Measures. For intersections with the potential to have sensitive habitats, the Project Developer, in consultation with a qualified biologist, shall conduct site-specific surveys for special-status species, sensitive habitats, wetlands and waters of the United States, and nesting birds. If found, the Project Developer and its contractor shall implement avoidance and minimization measures, where feasible. Where avoidance is not possible, the Project Developer shall compensate for lost habitat at a minimum 1:1 basis. Compensation for lost habitat will be determined in consultation with CDFW/U.S. Fish and Wildlife Service (USFWS), as appropriate. The Project Developer shall obtain all required permits from the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board, and CDFW, and USFWS, as appropriate. The Project Developer shall provide buffer fencing and species relocation, as necessary, if permitted by CDFW/USFWS. Additionally, if special-status species or habitats are identified during the site-specific surveys, a Worker Environmental Awareness Training Program for construction personnel will be conducted by a qualified biologist retained by the Project Developer. The program will provide workers with information on their responsibilities with regard to the special-status species. The training will provide a physical description of the special- status species that have potential to occur and be affected by construction activities to each construction crew prior to the initiation of the crew's construction	Project Developer to conduct site-specific surveys for special- status species, sensitive habitats, wetlands and waters of the United States, and nesting birds and provide to City for review and approval. If special status species are found, Project Developer to submit documentation to City detailing protective measures for review and approval.	Project Developer/ Qualified biologist	City Planning & Inspection Division	Prior to issuance of grading and building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
activities. The worker awareness training will also detail each species' habitat and legal protections, a photo of relevant species, and contact information for the primary biologist.				
Geology and Soils				
IM-GEO-1: Prepare a Geotechnical Investigation. Prior to construction of any intersection improvement that requires retaining walls (or disturbance of existing retaining wall), disturbance or placement of fill, substantial excavation below grade, establishment of new slopes, and/or placement of new structures above or below grade, the Project Developer shall prepare a geotechnical investigation to evaluate the potential for geologic, seismic, and soil risks. The geotechnical investigation shall include recommendations to abate any potential risks. If risks are identified, the Project Developer shall implement the recommendations included in the geotechnical investigation.	Project Developer to provide to City geotechnical investigation for review and approval. City and Developer to submit such report to regulatory agencies and secure approval as required. Project Developer to incorporate resulting measures into project plans.	Project Developer/City	City Planning and Inspection Division	Prior to issuance of grading and building permits
Hydrology and Water Quality				
IM-WQ-1: Prepare a Hydrology and Water Quality Technical Report. Prior to construction of any intersection improvement, the Project Developer shall prepare a hydrology and water quality technical report to evaluate the existing drainage and stormwater conditions at the subject intersections. The technical report shall include recommendations for drainage and stormwater controls to minimize impacts related to changes in drainage patterns that would result from the intersection improvements. The Project Developer shall be required to implement the report's recommendations.	Project Developer to provide to City a hydrology and water quality technical report to evaluate the existing drainage and stormwater conditions at the subject intersections for review and approval.	Project Developer	City Planning & Inspection Division	Prior to issuance of grading and building permits
Hazards and Hazardous Materials				
IM-HAZ-1: Prepare a Phase I Environmental Site Assessment. Prior to construction of any intersection improvement involving ground disturbance of acquired property, the Project Developer shall conduct a Phase I Environmental Site Assessment. Where the potential to encounter hazardous materials or waste is identified, the Project Developer shall prepare and implement a soil/groundwater handing plan that identifies measures to properly dispose of contaminated materials. Measures could include worker education and training, as appropriate, and site- specific controls to avoid risks to workers and adjacent residents or others.	Project Developer to submit Phase I Environmental Site Assessment to City for review and approval. Project Developer to implement soil/ groundwater handling plan to City for review and approval.	Project Developer	Department of Public Works	Prior to issuance of grading and building permits

RELATED SANTA CLARA DAP 1, PHASE 1 PROJECT – SECONDARY IMPACTS
PLANNING/CEQA FILE # PLN2019-14186 (PLN2014-10554/CEQ2014-01180)

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
Transportation				
SW-TRA-1: Prepare and Implement a Construction Traffic Control Plan. Prior to issuance of grading permits, the construction contractor will develop the traffic control plan in accordance with the City's policies and submit for approval. The plan will be implemented throughout the course of construction and may include, but will not be limited to, the following elements: • Limit truck access to the soundwall site during peak commute times (7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.). • Require that written notification be provided to contractors regarding appropriate routes to and from the soundwall and the weight and speed limits on local roads that would be used to access the soundwall site. • Provide access for emergency vehicles at all times. • Provide adequate parking for construction workers, site visitors, and inspectors as feasible. • Maintain bicycle and pedestrian access and circulation during Project construction where safe to do so. If construction encroaches on a bike lane, warning signs will be posted that indicate that bicycles and vehicles are sharing the roadway. If construction encroaches on a sidewalk, a safe detour will be provided for pedestrians at the nearest crosswalk. • Require traffic controls in the vicinity of the soundwall, including flagpersons with bright orange or red vests and using a "Stop/Slow" paddle to control oncoming traffic. • Post standard construction warning signs in advance of the construction area and at any soundwall that provides access to the construction area. • Repair or restore the road right-of-way to its original condition or better upon completion of the work.	Not Applicable Project Developer to prepare and submit a Construction Traffic Control Plan for the purpose of managing traffic and reducing traffic congestion during construction. City to review and approve Plan.	Project Developer/ Project Contractor	Department of Public Works	Prior to grading and building permit issuance.
Air Quality				
SW-AQ-1: Implement Measures to Reduce Construction-Related Dust Emissions. The Project Developer shall require all construction contractors to implement the specific construction mitigation measures below to reduce fugitive dust. Emission reduction measures shall include, at a minimum, the measures below. Alternative measures may be identified by the Project Developer or its contractor, as appropriate, provided that they are as effective as the measures below. Alternative measures shall be submitted to the City for approval. • All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. If water infiltration into landfill refuse layers is a concern, non-toxic soil stabilizers may be used instead. • All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph for a period of 2 hours or more. • Windbreaks (e.g., fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Windbreaks shall have at maximum 50 percent air porosity.	Not Applicable Project Developer to City applicable provisions of construction contracts specifying construction mitigation measures to reduce construction-related dust emissions.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to issuance of grading and building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
• Exposed ground areas that are to be reworked more than 1 month after initial grading should be sown with fast-germinating native grass seed and watered appropriately until vegetation is established. If grass seeding is not feasible, then non-toxic soil stabilizers may be used. • All construction trucks and equipment, including tires, involved in ground disturbance or transit through loose soil areas shall be washed off prior to leaving the site. • Site accesses to a distance of 25 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel. Alternatively, a rumble plate may be used in place of chips, mulch, or gravel. • Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.				
SW-AQ-2: Implement Measures to Reduce Construction-Related Exhaust Emissions. The Project Developer shall require all construction contractors to implement the specific construction mitigation measures below to reduce equipment exhaust emissions. Emission reduction measures shall include, at a minimum, the measures below. Alternative measures may be identified by the Project Developer or its contractor, as appropriate, provided that they are as effective as the measures below. Alternative measures shall be submitted to the City for approval. • Idling time of diesel powered construction equipment shall be limited to 2 minutes. • The Project Developer shall ensure that all off-road diesel-powered equipment used during construction between 2017 and 2022 is equipped with U.S. Environmental Protection Agency (EPA) Tier 3 or cleaner engines, except for specialized construction equipment for which an EPA Tier 3 engine is not available. Consistent with advancements of the statewide fleet average, the Project Developer shall ensure that all off-road diesel-powered equipment used during construction between 2023 and 2030 is equipped with EPA Tier 4 engines. This requirement will ensure that construction equipment remains cleaner than the fleet-wide average. • The Project Developer shall ensure that all on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used at the Project site comply with EPA 2007 on-road emissions standards for particulate matter of 10 micrometers or less (PM10) and nitrogen oxides (NO_X) (0.01 grams per brake horsepower-hour [g/bhp-hr] and 0.20 g/bhp-hr, respectively). • Notwithstanding the above requirements, all construction equipment, diesel trucks, and generators shall meet the California Air Resources Board's most recent certification standard for off-road heavy-duty diesel engines and shall employ Best Available Control Technology for emission reductions of NO_X and particulate matter (PM) if more stringent than the requirements above.	Not Applicable Project Developer to provide to City applicant provisions of construction contracts specifying construction mitigation measures to reduce construction- relate exhaust emissions.	Project Developer/ Project Contractor	City Planning & Inspection Division	Prior to issuance of grading and building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
Cultural Resources				
SW-CR-1: Conduct Cultural Resource Investigations and Protect and Recover Significant Resources. The improvement Lead Agency shall conduct a cultural resource investigation of the areas of ground disturbance associated with the soundwall that includes a background records search (including a search of records from Sonoma State and historical societies, contact with Native American representatives identified by the Native American Heritage Commission [NAHC], and site pedestrian surveys) for the areas of ground disturbance from each roadway improvement. If significant known or suspected sites are discovered within the Project footprint and would be disturbed by the Project, then a cultural resource treatment plan shall be prepared, defining Project monitoring and resource recovery and curation requirements concerning any encountered cultural resources.	Not Applicable City to conduct a cultural resource investigation that includes a background records search during ground disturbance. If necessary, City to prepare and execute cultural resource treatment plan.	City Planning & Inspection Division	City Planning & Inspection Division	Prior to issuance of grading and building permits
SW-CR-2: Stop Work if Cultural Resources Are Encountered during Ground- Disturbing Activities. In the event that cultural resources are encountered during ground-disturbing activities, all work within proximity of the find shall temporarily halt so that the archaeological monitor can examine the find and document its provenience and nature (e.g., with drawings, photographs, written descriptions). The archaeological monitor shall then direct that the work proceed if the find is deemed to be insignificant, continue elsewhere, or cease until adequate mitigation measures are adopted. If the find is determined to be potentially significant, the archaeologist, in consultation with the appropriate jurisdiction, shall develop a treatment plan, which could include site avoidance, capping, or data recovery. If data recovery is determined to be appropriate, excavation shall target recovery of an appropriate amount of information from archaeological deposits to determine the potential of the resource to address specific research questions. If it occurs, data recovery shall emphasize the understanding of the archaeological deposit's structure, including features and stratification, horizontal and vertical extent, and content, including the nature and quantity of artifacts.	Not Applicable Archaeological monitor (retained by the Project Developer), as necessary, and in consultation with the City, develop a Treatment Plan.	Project Developer/ Qualified Archaeologist	City Planning & Inspection Division	During construction if cultural resources are encountered
SW-CR-3: Stop Work if Human Remains Are Encountered during Ground-Disturbing Activities. If human remains are discovered (in either an archaeological or construction context), all work within proximity of the remains shall stop so that the archaeological monitor can examine the remains. The County Coroner shall be notified to make a determination as to whether the remains are of Native American origin. If the remains are determined to be Native American, the coroner shall notify the NAHC immediately. The NAHC shall notify those persons it believes are most likely descended from the deceased Native American. Once the NAHC identifies the most likely descendants, the descendants will make recommendations regarding proper burial, which will be implemented in accordance with Section 15064.5(e) of the State CEQA Guidelines.	Not Applicable Project Developer to submit to City applicable provisions of construction contracts including applicable requirements.	Project Developer/ Project Contractor	County Coroner/ NAHC	Prior to issuance of grading and building permits
Biological Resources				
SW-BIO-1: Replace Removed Trees on a 2:1 Basis. The Project Developer shall replace all trees removed as part of soundwall construction at a minimum of 2:1, or more, as required by the local tree ordinance.	Not Applicable Project Developer to provide to City report documenting plans to replace all trees removed at a 2:1 ratio for review and approval.	Project Developer	City Planning & Inspection Division	Prior to issuance of grading and building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
SW-BIO-2: Preconstruction Surveys. The Project Developer and its contractors shall avoid conducting vegetation removal during the migratory bird nesting season (February 1–August 31) if feasible. If construction activities must commence during the migratory bird nesting season, the Project Developer shall retain a qualified wildlife biologist to conduct a survey for nests of migratory birds. Surveys for nesting migratory birds shall occur within 3 days prior to the commencement of ground disturbance and vegetation removal. If an active nest is discovered, a no-disturbance buffer zone around the nest tree or shrub (or, for ground-nesting species, the nest itself) shall be established. The no- disturbance zone shall be marked with flagging or fencing that is easily identified by the construction crew and shall not affect the nesting bird or attract predators to the nest location. In general, the minimum buffer zone widths shall be as follows: 50 feet (radius) for non-raptor ground-nesting species, 50 feet (radius) for non-raptor shrub- and tree-nesting species, and 300 feet (radius) for raptor species. Buffer widths may be modified based on discussion with the California Department of Fish and Wildlife (CDFW). Buffers shall remain in place as long as the nest is active or young remain in the area and are dependent on the nest. If a burrowing owl nest is identified during pre-construction surveys, no-activity buffers will adhere to the recommendations in the 2012 California Department of Fish and Game Staff Report on Burrowing Owl Mitigation.	Not Applicable Project Developer to provide to City provisions of construction contracts including pertinent requirements. If construction occurs in the nesting season, Project Developer to submit to City agreement with qualified wildlife biologist requiring surveys and protective measures.	Project Developer/ Project Contractor/ Qualified wildlife biologist	City Planning & Inspection Division	Prior to issuance of grading and building permits for biologist and construction contracts; prior to commence-ment of grading for biologist agreements; and prior to ground disturbance for surveys
SW-BIO-3: Site-Specific Surveys and Species/Habitat Avoidance, Minimization, and Compensation Measures. The Project Developer, in consultation with a qualified biologist, shall conduct a site-specific surveys for special-status species, sensitive habitats, wetlands and waters of the United States, and nesting birds. If found, the Project Developer and its contractor shall implement avoidance and minimization measures, where feasible. Where avoidance is not possible, the Project Developer shall compensate for lost habitat on a minimum 1:1 basis. Compensation for lost habitat will be determined in consultation with CDFW/U.S. Fish and Wildlife Service (USFWS), as appropriate. The Project Developer shall obtain all required permits from the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board, and CDFW and USFWS as appropriate. The Project Developer shall provide buffer fencing and species relocation, as necessary, if permitted by CDFW/USFWS. Additionally, if special-status species or habitats are identified during the site-specific surveys, a Worker Environmental Awareness Training Program for construction personnel will be conducted by a qualified biologist retained by the Project Developer. The program will provide workers with information on their responsibilities with regard to the special-status species. The training will provide a physical description of the special-status species that have potential to occur and be affected by construction activities to each construction crew prior to the initiation of the crew's construction activities. The worker awareness training will also provide details regarding each species' habitat and legal protections, a photo of relevant species, and contact information for the primary biologist.	Not Applicable Project Developer to conduct site-specific surveys for special- status species, sensitive habitats, wetlands and waters of the United States, and nesting birds and provide to City for review and approval. If special status species are found, Project Developer to submit documentation to City detailing protective measures for review and approval.	Project Developer/ Qualified biologist	City Planning & Inspection Division	Prior to issuance of grading and building permits

Mitigation and Avoidance Measures	Action	Implementing Party	Monitoring Party	Timing
Geology and Soils				
SW-GEO-1: Prepare a Geotechnical Investigation. Prior to construction of the soundwall, the Project Developer shall prepare a geotechnical investigation to evaluate the potential for geologic, seismic, and soil risks. The geotechnical investigation shall include recommendations to abate any potential risks. If risks are identified, the Project Developer shall implement the recommendations included in the geotechnical investigation.	Not Applicable Project Developer to provide to City geotechnical investigation for review and approval. City and Developer to submit such report to regulatory agencies and secure approval as required. Project Developer to incorporate resulting measures into project plans.	Project Developer/ City	City Planning and Inspection Division	Prior to issuance of grading and building permits
Hydrology and Water Quality				
SW-WQ-1: Prepare a Hydrology and Water Quality Technical Report. Prior to construction of the soundwall, the Project Developer shall prepare a hydrology and water quality technical report to evaluate the existing drainage and stormwater conditions at the soundwall site. The technical report shall include recommendations for drainage and stormwater controls to minimize impacts related to changes in drainage patterns that would result from the soundwall. The Project Developer shall be required to implement the report's recommendations.	Not Applicable Project Developer to provide to City a hydrology and water quality technical report to evaluate the existing drainage and stormwater conditions at the soundwall site for review and approval.	Project Developer	City Planning & Inspection Division	Prior to issuance of grading and building permits
Hazards and Hazardous Materials				
SW-HAZ-1: Prepare a Phase I Environmental Site Assessment. Prior to construction of the soundwall, the Project Developer shall conduct a Phase I Environmental Site Assessment. Where the potential to encounter hazardous materials or waste is identified, the Project Developer shall prepare and implement a soil/groundwater handing plan that identifies measures to properly dispose of contaminated materials. Measures could include worker education and training, as appropriate, and site-specific controls to avoid risks to workers and adjacent residents or others.	Not Applicable Project Developer to submit Phase I Environmental Site Assessment to City. Project Developer to implement soil/ groundwater handling plan to City for review and approval.	Project Developer	Department of Public Works	Prior to issuance of grading and building permits
Utilities and Service Systems				
SW-UT-1: Identify Underground and Overhead Utilities and Provide Coordination with Utility Providers. Prior to construction of the soundwall, the Project Developer shall identify all underground and overhead utilities within the footprint of the soundwall. If utilities are present, the Project Developer shall coordinate with the appropriate utility owners regarding utility shutoff during construction and relocation, as necessary.	Not Applicable Project Developer to identify all underground and overhead utilities within the footprint of the soundwall and provide documentation to City of coordination with the appropriate utility owners regarding utility shutoff during construction and relocation for review and approval.	City Planning & Inspection	City Planning & Inspection	Prior to issuance of grading and building permits

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Appendix B

Related Santa Clara Scheme C Traffic Report

ARUP

Memorandum

To	City of Santa Clara
Date	Dec 19th, 2024
Copies	Related Santa Clara
Reference number	239661/Memo 5
From	Arup
File reference	2024-12-19 RSC Traffic Analysis Memo rev5
Subject	**Related Santa Clara Project - Master Community Plan Amendment** Traffic Analysis for EIR Addendum

1. Introduction

1.1 Project Description

Related is proposing an amendment to the approved Master Community Plan (MCP) for the Related Santa Clara Project as follows:

1. A new land use classification of 1.6 million square feet of light industrial use in the northeastern area of the project site including Parcels 1 & 2 (refer to Figure 1.1) and defined as the 'Northeast Parcel' for this Traffic Analysis.
2. Densify office uses in Parcel 4 of City Center (refer to Figure 1.1) beyond the allowed MCP's density transfer provisions.
3. Retain the total approved gross square footage of the approved entitlement.
4. Revise site circulation and infrastructure improvement plans to accommodate the above changes (refer also to Figure 1.2).

The updated land use classification and distribution including both changes for City Center and the Northeast Parcel is defined as 'Scheme C'. As shown in Figure 1.2, the updated site circulation and access configuration for the Northeast Parcel includes three new intersections off Lafayette Street: Lafayette Street / North Access Road (Intersection ID 86), Lafayette Street / Jug Handle (Intersection ID 87) and Lafayette Street / South Access Road (Intersection ID 88).

For Scheme C, these intersections have been reconfigured compared to the layout proposed in the City Place Santa Clara Project Final Environmental Impact Report dated April 2016[1] (referred to as '2016 EIR' in this document) as part of the revised Northeast Parcel site layout and circulation and to accommodate the updated traffic volumes and access requirements evaluated by this study. Intersection layouts including the proposed double right turn lanes and additional right-of-way requirements are subject to further revision as part of the Development Area Plan study and approval process. The updated site plan for the Northeast Parcel removes the previously planned connection of the Northeast Parcel to Lick Mill Boulevard in the Tasman East Specific Plan Area (referred to as 'Tasman East' in

[1] https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/135/3650

this document) which is located between Parcel 2 and Tasman Drive (refer to Figure 1.1). The Lick Mill Boulevard North section connecting Tasman Drive with Tasman East would still be provided as planned for Tasman East. However, there will be no 'Lick Mill Connection' from Lick Mill Boulevard North to the Northeast Parcel internal road network. To determine the impact of removing this Lick Mill Connection, two access schemes are evaluated:

- The access scheme 'Without Lick Mill Connection as proposed for Scheme C; and
- The access scheme 'With Lick Mill Connection' as assumed in the 2016 EIR for Scheme B[2].

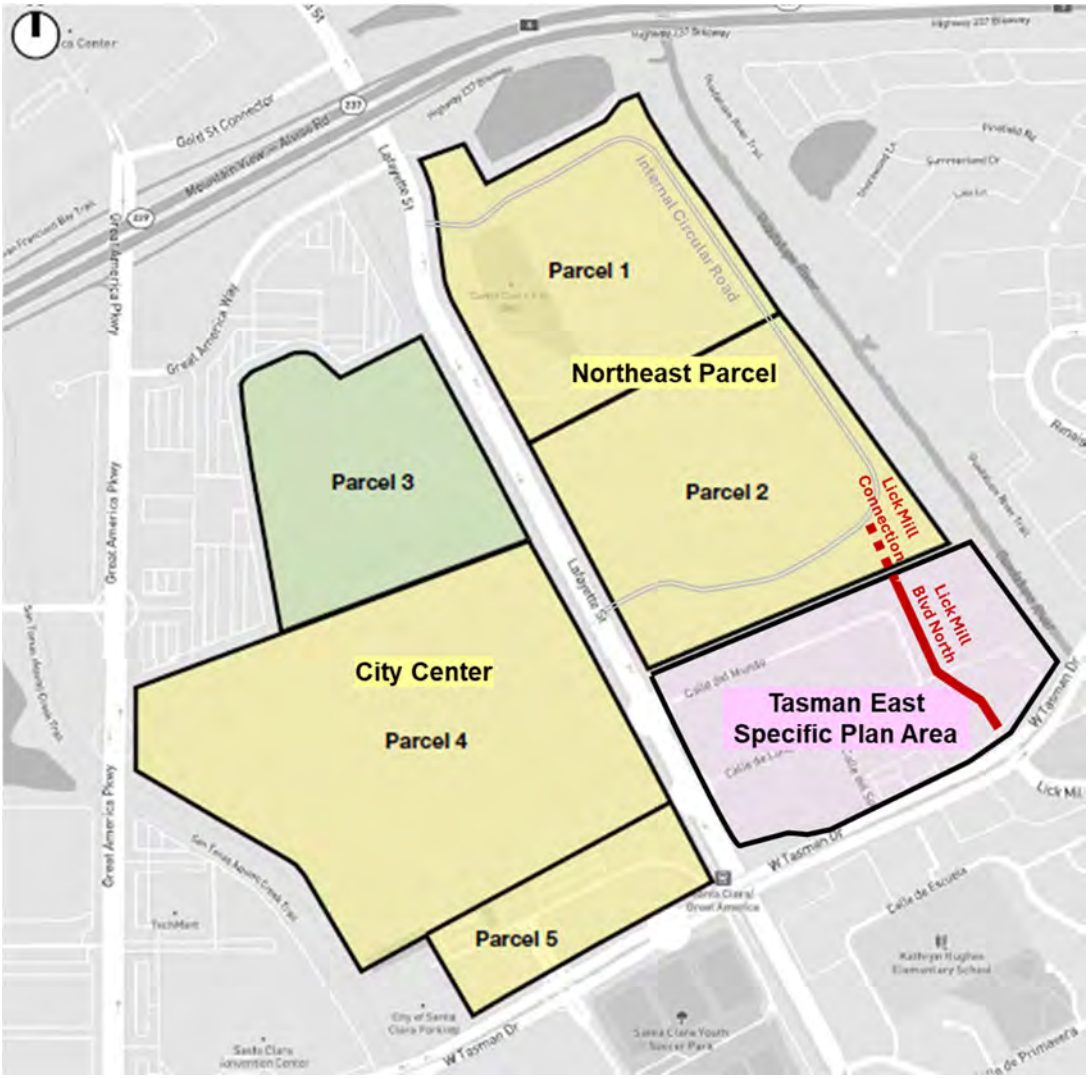


Figure 1.1: Related Santa Clara Development Area

[2] The Cityplace Master Community Plan included two different land use schemes (Scheme A and Scheme B) to capture the range of possible land uses that could be developed. The 2016 EIR only evaluated Scheme B as the land use scenario with the expected higher trip generation due to the focus on office development. Therefore, the Scheme C analysis in this report is compared to Scheme B.

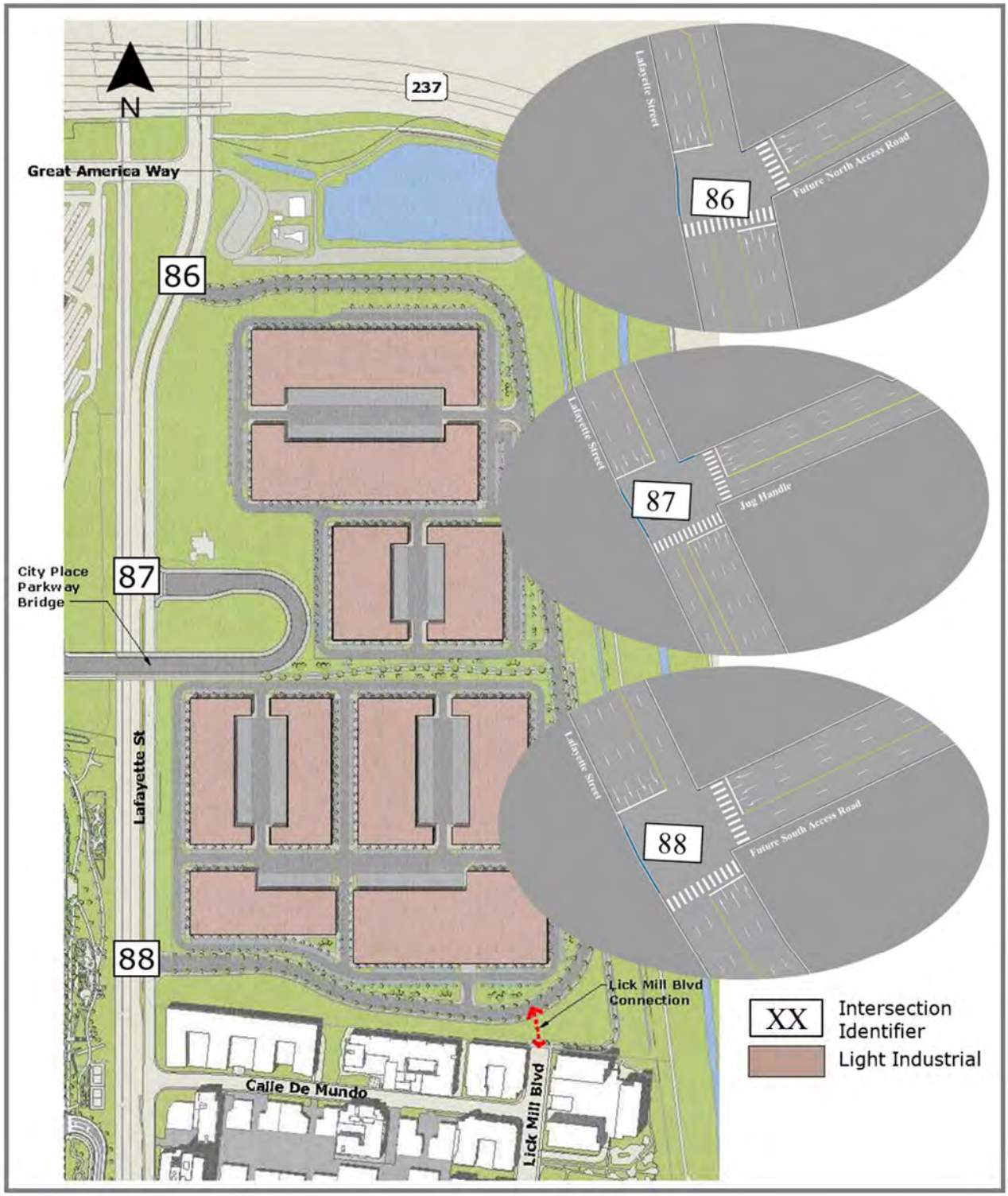


Figure 1.2: Access Configurations

1.2 Purpose and Content of this Document

This document summarizes the traffic and transportation analysis completed for the Related Santa Clara Project (referred to as 'Project' in this document) Environmental Impact Report Addendum to evaluate the impacts of the updated development plans defined by Scheme C and considering updated background and cumulative traffic assumptions. The traffic and transportation analysis approach is discussed in Section 2.

This Memorandum summarizes the following analysis and outputs:

- Trip generation assumptions and trip generation calculation for the Project (Section 3);
- Trip distribution assumptions and outputs for the Project (Section 4);
- Evaluation of the impacts of the 'Without Lick Mill Connection' access scheme compared to the 'With Lick Mill Connection' access scheme for Project with Cumulative conditions (Section 5);
- Traffic analysis for Project with Background conditions (Section 6);
- Traffic analysis for Project with Cumulative conditions (Section 7) ;
- Evaluation of other transportation considerations (Section 8); and
- Travel Demand Management requirements (Section 9).

1.3 Summary of Impacts

The Scheme C total Project trips are reduced by 20% for the AM Peak hour, 24% for the PM Peak hour and 30% for daily trips compared to the number of trips generated by Scheme B evaluated in the 2016 EIR. The increased land use density in City Center, change of the mix of land uses, modifications to the internal site road network and change in travel patterns and vehicle trip distribution could result in more vehicle trips at certain intersections providing access to City Center as well as intersections in close proximity to the Project site.

Still, the traffic and intersection level of service analysis for the Without Lick Mill Connection access scheme demonstrates that Scheme C does not substantially increase the severity of the significant impacts previously identified by the 2016 EIR.

The 2016 EIR found that Scheme B would have a significant unavoidable impact on signalized intersections because of the Level of Service ('LOS') deteriorating to either 'E' or 'F' with significant unavoidable impacts under Cumulative with Project conditions. With the general reduction in Project trips, the Scheme C traffic analysis is completed for a reduced study area compared to the 2016 EIR. Within this reduced study area and considering the changed distribution due to the updated development context and removal of the Lick Mill Connection, the traffic analysis for Scheme C identified eleven intersections with a LOS 'E' or 'F' under Cumulative with Project conditions. The 2016 EIR also identified eleven intersections with a LOS 'E' or 'F' under Cumulative with Project conditions.

Ten of these intersections are similar in the 2016 EIR and the Scheme C analysis Without the Lick Mill Connection. Out of these ten intersections with a LOS 'E' or 'F' identified in both the 2016 EIR and Scheme C analysis, five record less delay under Scheme C compared to the 2016 EIR and four result in an increase in delay. There are eleven intersections within the reduced study area where the LOS either improves or deteriorates for Scheme C when compared to Scheme B.

The intersection at Great America Parkway / Tasman Drive (Intersection ID 8) improves from LOS ‘F’ as identified in the 2016 EIR to ‘D’ during the AM Peak hour for Scheme C and remains at LOS ‘F’ during the PM Peak hour. The intersection at Tasman Drive / Convention Center (Intersection ID 9) improves from LOS of ‘F’ for both peak hours to LOS ‘D’ during the PM Peak hour and LOS ‘B’ during the AM Peak hour. The intersection at Centennial Boulevard / Tasman Drive (Intersection ID 11) improves from LOS ‘F’ to LOS ‘B’ for Scheme C during the AM Peak hour and remains at LOS ‘F’ during the PM Peak hour. The intersection at Lick Mill Boulevard / Tasman Drive (Intersection ID 14) improves from LOS ‘F’ as identified for both peak hours in the 2016 EIR to LOS ‘D’ in the AM Peak hour and LOS ‘E’ in the PM Peak hour for Scheme C. The intersection at Great America Parkway / Old Glory Lane (Intersection ID 64) improves from LOS ‘F’ in the 2016 EIR to LOS ‘D’ for Scheme C during the AM Peak hour. It remains at LOS ‘F’ during the PM Peak hour. The intersection at Lafayette Street / Calle Del Mundo (Intersection ID 89) improves from LOS ‘F’ in the PM Peak hour in the 2016 EIR to LOS ‘B’ for Scheme C. It remains at LOS ‘F’ during the AM Peak hour though with a reduction in delay.

The intersection at Great America Parkway / Great America Way (Intersection ID 59) results in a deteriorating LOS from ‘D’ to ‘F’ under Scheme C Cumulative with Project conditions for the AM Peak hour and LOS ‘E’ to ‘F’ during the PM Peak hour. Delays increase at the intersection at Great America Parkway / Old Mountain View (Intersection ID 60) for both the AM Peak hour and PM Peak hour for Scheme C when compared to the 2016 EIR results though the LOS remains at LOS ‘F’ for the AM Peak hour and LOS ‘E’ during the PM Peak hour. The intersection at Great America Way / Bunker Hill (Intersection ID 63) deteriorates from LOS ‘B’ in the 2016 EIR to LOS ‘E’ for Scheme C during the PM Peak hour largely because of non-Project trips generated by recently approved other development projects in this area. During the AM Peak hour this intersection performs at LOS ‘B’ for both Scheme C and the 2016 EIR. At the intersection of Great America Parkway / Patrick Henry Drive (Intersection ID 65) the LOS deteriorates from ‘C’ as identified in the 2016 EIR to ‘D’ for Scheme C during the AM Peak hour. The LOS remains at ‘F’ during the PM Peak hour, however, delays increase for Scheme C. The intersection at Great America Parkway / Mission College Boulevard (Intersection ID 66) deteriorates from LOS ‘E’ to ‘F’ in Scheme C during the AM Peak hour. The LOS remains at ‘F’ during the PM Peak hour, however, delays increase for Scheme C.

The intersection at Lafayette Street / Calle de Luna (Intersection ID 90) improves from LOS ‘E’ to ‘C’ for Scheme C under Cumulative with Project conditions during the AM Peak hour and deteriorates from LOS ‘C’ to ‘E’ during the PM Peak hour. These results are based on the Scheme C network Without the Lick Mill Connection.

With the Lick Mill Connection, additional intersections are identified with LOS ‘E’ or ‘F’ under Cumulative with Project conditions for Scheme C including the intersection at Great America Parkway / Cityplace Parkway (Intersection ID 61), intersection at Great America Parkway / Second Street (Intersection ID 62), intersection at Lafayette Street / Great America Way (Intersection ID 85) and intersection at Lafayette Street / North Access Road to the Northeast Parcel which is a new intersection (Intersection ID 86). The Intersection at Lafayette Street / Calle de Luna (Intersection ID 90) would operate at a better level of service during the PM peak hour With the Lick Mill Connection (LOS D) versus Without the Lick Mill Connection (LOS E). The intersection at Lafayette Street / South Access

Road (Intersection ID 88) has a LOS ‘A’ in both peak hours With the Lick Mill Connection which deteriorates to LOS ‘D’ during the AM Peak hour and ‘B’ during the PM Peak hour Without the Lick Mill Connection. For intersections with LOS ‘E’ or ‘F’ for both access schemes delays increase at three intersections under Cumulative Conditions Without the Lick Mill Connection compared to delays With the Lick Mill Connection. Delays are reduced at three intersections under Cumulative Conditions Without the Lick Mill Connection compared to delays With the Lick Mill Connection. Overall, the performance of intersections deteriorates With the Lick Mill Connection compared to the access scheme Without the Lick Mill Connection primarily due to an increase in No Project trips across Northeast Parcel internal and external road network.

Under Background with Project conditions, the number of intersections with a LOS ‘E’ or ‘F’ within the reduced study area is reduced from ten to one. This is a consequence of the reduced Project trips and adjusted No Project Background conditions. The adjusted No Project Background conditions are based on traffic counts collected in 2018/19 which are lower than the Background No Project conditions forecast and adopted in the 2016 EIR.

In terms of other transportation considerations including truck circulation, construction traffic, game-day analysis and transit, bike and pedestrian impacts, the impacts of Scheme C are either at the same level or less severe than impacts identified by the 2016 EIR.

2. Study Approach

This traffic analysis compares traffic and transportation impacts for the modified land use program defined as Scheme C to the impacts identified in the 2016 EIR traffic and transportation analysis. The limited purpose of this comparison is to make the threshold determination of whether Scheme C substantially increases the severity of previously identified impacts in order to determine if a supplemental analysis under CEQA is required. The traffic analysis is limited to evaluating Background with Project and Cumulative with Project conditions utilizing existing and available information, including pre-pandemic traffic count data and data obtained from running the City of Santa Clara Travel Demand Model to obtain Project specific traffic volume outputs. However, a full City of Santa Clara model update is not undertaken.

The following subsections outline the specific methodology, data inputs and outputs for trip generation, trip distribution, intersection analysis and evaluation of other transportation impacts.

2.1 Trip Generation and Reductions for Internalization and Transit

The following approach is adopted:

- Trip generation is based on rates adopted by the 2016 EIR (generally, 9th edition of ITE rates). It needs to be noted that for some land uses, trip generation rates are lower in the current ITE editions, and the adoption of these newer rates would result in lower total trip generation. For Entertainment (LUC 445), the 9th edition does not include a daily trip rate. To estimate the daily trips using the 9th edition ITE rates a daily rate is derived using an inflated peak hour rate based on the difference of daily to peak hour rates in the latest 11th edition of ITE.
- For the industrial development in the Northeast Parcel area, ITE rate 140 (based on 11th edition of ITE rates) for Manufacturing is adopted for vehicle trips. This land use has the highest trip rate for PM peak hour compared to other industrial rates and only a marginally lower AM Peak hour rate compared to other industrial rates. Also, the daily rate is only minimally lower than rate 110 for General Light Industrial uses. Since the PM peak hour is the most critical traffic period for this development, rate 140 represents the most intense and therefore most conservative rate for the planned program for the Northeast Parcel.
- For trucks, ITE rate 150 (based on 11th edition of ITE rates) is adopted to consider the highest potential volume for truck daily traffic that could be generated by the new Project. Peak hour truck trips are generally low across all industrial land uses whereas daily trips are critical for air quality and noise analysis.
- Internalization and TDM and transit-based trip reduction adjustment rates are derived from the 2016 EIR and subsequent DAP 1[3] and DAP 2[4]. These will be used for hotel, retail, entertainment and Food & Beverage ('F&B') land uses to estimate the projected trip internalization and to align internalization assumptions with the previous work trip generation estimates and related

[3] https://www.santaclaraca.gov/home/showpublisheddocument/66479/637172989485400000

[4] https://santaclara.legistar.com/View.ashx?M=F&ID=8660679&GUID=D6728889-E947-4B81-A2C5-3EBC1C2DC624

internalization assumptions provided for City Center and Northeast Parcel areas. For residential land uses, internalization is based on a blended approach using the publicly available version of the MXD tool[5] and the ITE Trip Internalization Method[6]. This update of the residential internalization rate responds to the increase in residential areas under Scheme C[7].

- Considering that the Northeast Parcel area is not part of the mixed-use development in City Center, internalization is not applied to the Northeast Parcel area trip generation. Also, considering the industrial / warehousing land use a 5% transit reduction is not applied to the Northeast Parcel trip generation.
- The transit trip reduction is not applied to part of Parcel 4 including 1.23m square feet of office area in the northwest corner considering that part of Parcel 4 does not fall within 0.5 miles of both the VTA and ACE transit stations.

2.2 Trip Distribution

The following approach is adopted:

- A reduced study area network (refer to Figure 2.1) is adopted for this Traffic Analysis compared to the study area of the 2016 EIR considering the overall reduction in trips during the AM Peak hour, PM Peak hour and also daily. The increased land use density in City Center, change of the mix of land uses, modifications to the internal site road network and change in travel patterns and vehicle trip distribution could result in more vehicle trips at certain intersections providing access to City Center as well as intersections in close proximity to the Project site. In addition, the combined impact of reduced Project trips and recently approved development projects along Great America Parkway (Kylli mixed use development and Patrick Henry Drive Specific Plan) needs to be evaluated and therefore intersections on Great America Parkway between Tasman Drive and US 101 are included in the reduced study area. Intersections along Great America Parkway south of US 101 and the remainder of the wider network studied as part of the 2016 EIR are expected to only see a reduction in Project trips. The traffic signals included in the study area are listed in Table 1.1. Intersection identifiers are identical with the numbers used in the 2016 EIR. Figure 2.2 shows the locations of these signalized intersections.
- The City of Santa Clara (‘CSC’) Travel Demand Model is used to prepare select zone plots to derive an updated trip distribution pattern that accounts for the currently proposed land uses and the other approved and pending development in the project vicinity. A separate select zone plot is extracted from the CSC model for trucks generated by the industrial uses on the Northeast Parcel. This updated trip distribution assumption is adopted for this study and replaces the distribution assumptions included in the 2016 EIR.

[5] https://www.epa.gov/smartgrowth/mixed-use-trip-generation-model

[6] https://www.ite.org/technical-resources/topics/trip-and-parking-generation/other-resources/

[7] Note: by adopting this approach, the proprietary tool from Fehr & Peers which was used to estimate internalization for the EIR will not be required.

- Based on the updated trip distribution obtained from the CSC model traffic volumes generated by the Project are assigned to the internal Project site network, access points to the Project site and surrounding road network including Tasman Drive, Great America Parkway, Lafayette Street and connections to Lick Mill Boulevard, SR 237 and local roads using a local VISUM traffic model (refer to Figure 2.1 illustrating the network and traffic generation / attraction zones) developed for the Related Santa Clara Project. The updated trip distribution obtained from the CSC model and therefore adopted for the traffic assignment in the local VISUM model also considers trips to and from new development areas along Great America Parkway including trips to and from Bunker Hill Lane, Kylli Mixed Use Development (for cumulative analysis only), Patrick Henry Drive Specific Plan (for cumulative analysis only), Mission College Blvd East & West approaches, US 101 North & South approaches, and Bowers Ave South. In general, the same trip distribution is adopted for the Background with Project and Cumulative with Project[8] conditions. Trips to and from Kylli Mixed Use Development and Patrick Henry Drive Specific Plan are only considered for Cumulative with Project conditions.
- The traffic distribution derived from the CSC model is adopted for the access scheme 'Without Lick Mill Connection'[9] and the access scheme 'With Lick Mill Connection'. By evaluating traffic impacts for both access schemes, the impact of removing the Lick Mill Connection and respective differences in Project traffic assignment to the local road network and access points to the Project site can be assessed for the AM and PM peak hour. The South Access Road within the Northeast Parcel might be reconfigured for the With Lick Mill Connection access scheme as part of the evolution of the site plan and may therefore not be connected to Lick Mill. The potential impact of this network modification would be evaluated through the DAP process.
- Cumulative No Project traffic volumes are manually adjusted for the 'With Lick Mill Connection' access scheme to reflect that the Lick Mill Connection is available for through traffic connecting Lafayette Street with Tasman Drive. This adjustment is based on difference plots derived from the CSC model visualizing Cumulative with Project traffic volumes With and Without the Lick Mill Connection.

[8] Note: The trip distribution derived from the CSC model is based on the 2035 year since the latest CSC model update is only available for 2035. The 2035 distribution is considered to be represantive for 2040 Cumulative Conditions.

[9] Note: A bike and ped connection to Tasman East via Lick Mill Boulevard North to provide a bike connection from Tasman Drive to City Center will be included in the planning for the Northeast Parcel and is recognized in the multimodal analysis for the Northeast Parcel but is not part of the traffic analysis scope discussed in this document

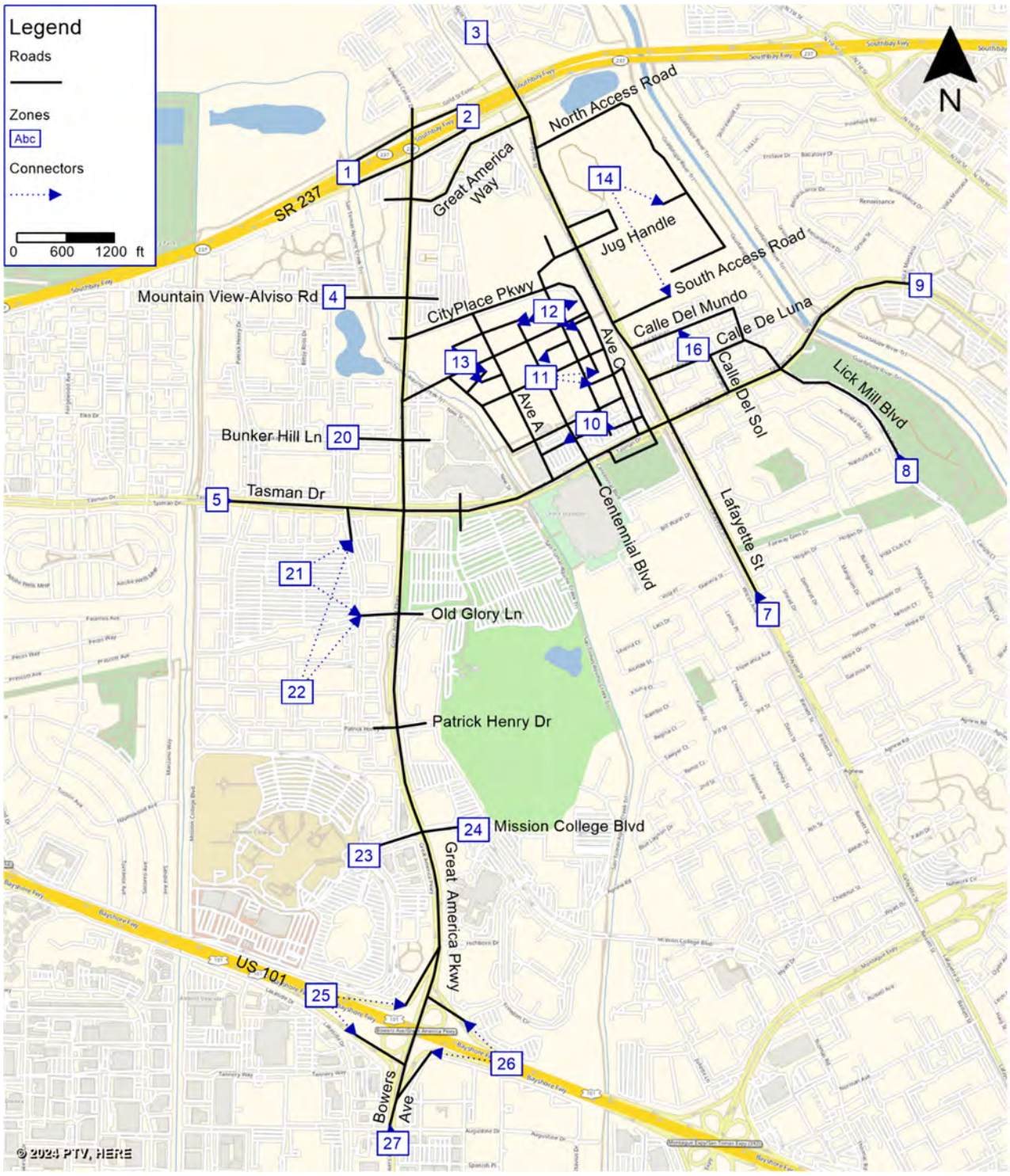


Figure 2.1: Study Area and VISUM Local Area Network Model

2.3 Intersection Analysis

The following approach is adopted:

- The reduced study area for the intersection analysis includes the road network and related intersections in the vicinity of the Project and intersections on Great America Parkway between Tasman Drive and US 101 as illustrated in Figure 2.2 below. The intersections included in this traffic analysis are listed in Table 2.1. All intersections are located within the City of Santa Clara. The listing identifies intersections that are part of the Valley Transportation Authority (VTA) Congestion Management Program (CMP). Intersection identifiers (ID) are aligned with the numbering scheme adopted previously for the 2016 EIR.

Table 2.1 Intersections included in the Traffic Analysis

ID	Intersection	Jurisdiction (CMP intersection)
8	Great America Parkway/Tasman Drive	Santa Clara (CMP)
9	Tasman Drive / Convention Center Access	Santa Clara
10	Tasman Drive / Avenue A	Santa Clara
11	Centennial Boulevard/Tasman Drive	Santa Clara
12	Tasman Drive / Avenue C	Santa Clara
13	Calle Del Sol/Tasman Drive	Santa Clara
14	Lick Mill Blvd/ Tasman Drive	Santa Clara
57	Great America Parkway/ SR 237 WB	San Jose (CMP)
58	Great America Parkway/ SR 237 EB	San Jose (CMP)
59	Great America Parkway/Great America Way	Santa Clara
60	Great America Parkway/Old Mountain View	Santa Clara
61	Great America Parkway/ Cityplace Pkwy	Santa Clara
62	Great America Parkway/ Second St	Santa Clara
63	Great America Parkway / Bunker Hill Lane	Santa Clara
64	Great America Parkway / Old Glory Lane	Santa Clara
65	Great America Parkway / Patrick Henry Drive	Santa Clara
66	Great America Parkway / Mission College Boulevard	Santa Clara (CMP)
67	Great America Parkway / US 101 NB Off Ramp	Santa Clara (CMP)
68	Bowers Avenue / US 101 SB Off Ramp	Santa Clara (CMP)
85	Lafayette St/Great America Way	Santa Clara
86	Lafayette St/North Access Road	Santa Clara
87	Lafayette St/ Jug Handle	Santa Clara
88	Lafayette St/South Access Road	Santa Clara
89	Lafayette St/Calle Del Mundo	Santa Clara
90	Lafayette St/Calle de Luna	Santa Clara
114	Calle Del Sol /Calle De Luna	Santa Clara

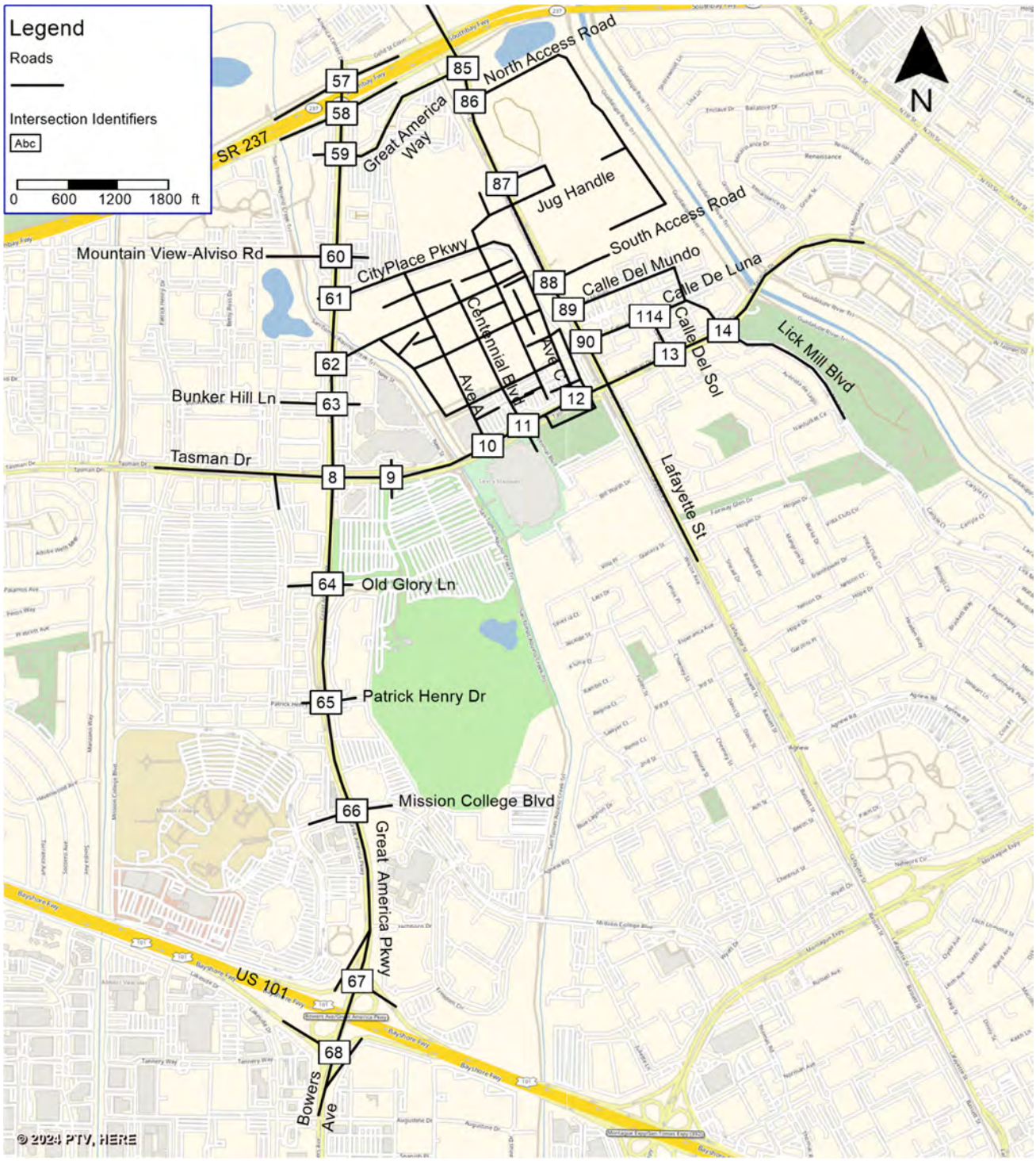


Figure 2.2: Study Intersection Locations and Identifiers

- A LOS and total intersection delay analysis for the Scheme C Project is provided for a select set of intersections within the reduced study area under Cumulative with Project conditions for the AM and PM Peak hour for the two access schemes 'Without Lick Mill Connection' and 'With Lick Mill Connection' to determine the impact of eliminating the Lick Mill Connection from Tasman East into the Northeast Parcel.
- The following intersections are included in this analysis:
    - Great America Parkway / Tasman Drive (ID 8)
    - Centennial Boulevard / Tasman Drive (ID 11)
    - Calle Del Sol / Tasman Drive (ID 13)
    - Lick Mill Blvd / Tasman Drive (ID 14)
    - Great America Parkway / Great America Way (ID 59)
    - Great America Parkway / Old Mountain View (ID 60)
    - Great America Parkway / Cityplace Pkwy (ID 61)
    - Great America Parkway / Second St (ID 62)
    - Lafayette St / Great America Way (ID 85)
    - Lafayette St / Future Access Road North (ID 86)
    - Lafayette St / Jug Handle (ID 87)
    - Lafayette St / Future Access Road South (ID 88)
    - Lafayette St / Calle Del Mundo (ID 89)
    - Lafayette St / Calle de Luna (ID 90)
    - Calle Del Sol / Calle De Luna (ID 114)
- A LOS and total intersection delay analysis for Scheme C Project is provided for all intersections within the reduced study area under Cumulative with Project and Background with Project conditions for the AM and PM peak hour Without the Lick Mill Connection.
- The following intersections are included in this analysis:
    - Great America Parkway / Tasman Drive (ID 8)
    - Tasman Drive / Convention Center Access (ID 9)
    - Tasman Drive / Avenue A (ID 10)
    - Centennial Boulevard / Tasman Drive (ID 11)
    - Tasman Drive / Avenue C (ID12)
    - Calle Del Sol / Tasman Drive (ID 13)
    - Lick Mill Blvd / Tasman Drive (ID 14)
    - Great America Parkway/ SR 237 WB (ID 57)
    - Great America Parkway/ SR 237 EB (ID58)
    - Great America Parkway / Great America Way (ID 59)
    - Great America Parkway / Old Mountain View (ID 60)
    - Great America Parkway / Cityplace Pkwy (ID 61)
    - Great America Parkway / Second St (ID 62)
    - Great America Parkway / Bunker Hill Lane (ID 63)
    - Great America Parkway / Old Glory Lane (ID 64)
    - Great America Parkway / Patrick Henry Drive (ID 65)
    - Great America Parkway / Mission College Boulevard (ID 66)
    - Great America Parkway / US 101 NB Off Ramp (ID 67)

- Bowers Avenue / US 101 SB Off Ramp (ID 68)
- Lafayette St / Great America Way (ID 85)
- Lafayette St / Future Access Road North (ID 86)
- Lafayette St / Jug Handle (ID 87)
- Lafayette St / Future Access Road South (ID 88)
- Lafayette St / Calle Del Mundo (ID 89)
- Lafayette St / Calle de Luna (ID 90)
- Calle Del Sol / Calle De Luna (ID 114)

- The intersection layouts and lane configurations are generally adopted from the 2016 EIR. Where mitigation was proposed as part of the 2016 EIR, this mitigation is assumed for the intersection analysis for this study including mitigation proposed for Background with Project conditions in order to compare the traffic impact under Background with Project conditions for Scheme C with the traffic impact under Background with Project conditions for Scheme B included in the 2016 EIR[10]. For the intersections of Lafayette Street / Calle Del Mundo (Intersection ID 89) and Calle Del Sol / Calle De Luna (Intersection ID 114) the layout is informed by the Tasman East Specific Plan. Further detail about the adopted intersection mitigation is provided in Appendix C.

- Intersection layouts including the proposed double right turn lanes at a new intersection or additional right-of-way requirements at existing and new intersections proposed along Lafayette Street are subject to further validation and potential revision as part of the DAP study and approval process.

- For Background no Project traffic volumes, the 2018/19 traffic counts referenced in the recently completed EIR studies for Menlo Equities, Mission Point and Patrick Henry Drive and Freedom Circle Focus Area Plan are adopted. These 2018/19 traffic counts are also referenced in DAP 2 and they represent a conservative scenario since data was collected pre-pandemic. For any intersection not included in these 2018/19 traffic counts, the 2014 counts and the 2% annual growth approach adopted in the various EIRs mentioned above will provide the Background traffic volumes.

- Cumulative No Project volumes are derived from the 2035 CSC model adopted for the Kylli Transportation Study by completing a separate CSC model run with Related Santa Clara Project land uses removed from the model. The model land use assumptions reflect ABAG 2035 land use projections in most locations. In the vicinity of the Project site, the model assumes buildout of the Patrick Henry Drive Specific Plan (Option 2) without a new roadway connection between Patrick Henry Drive and Mission College Boulevard), the Freedom Circle Focus Area, Kylli Mixed-Use Development (3,000,000 square feet of commercial office/lab space, 100,000 square feet of neighborhood retail, 1,800 new multi-family residential dwelling units, a 10,000 square feet childcare facility, and indoor and outdoor community spaces), and the Amended Tasman East Specific Plan. The model also assumes completion of 150,000 square feet of approved office space at 3001 Tasman Drive, 140,000 square feet of approved retail/restaurant/ entertainment uses at 1

[10] The 2016 EIR considered mitigation at intersections 90, 114, 64 and 65 (refer to table 3.3-20 Project - Specific (Existing with - Project/Background with - Project) Intersection Mitigation Measures.

Great America Parkway, and the proposed developments at 2901 Tasman Drive (865,950 net square feet of office space) and at 4949 Great America Parkway (319 room hotel and 5,758 square feet of restaurant space). While the ABAG land use data do not reflect any growth in enrollment at Mission College from 2018 to 2035, the forecasts were modified to reflect a 7.5 percent increase in enrollment by the Year 2035 based on historic data obtained from the California Community Colleges Chancellor's Office

- Traffic volumes forecast by the 2035 CSC model are used to determine the difference to 'Existing' 2019 CSC model data. These outputs are used to adjust the 2018/19 traffic counts to derive 2035 Cumulative No Project volumes for all intersection movements within the study area. Traffic forecast for the south approach at the intersection of Tasman Drive / Centennial Boulevard (Intersection ID 11) are shifted to the South approach at intersection Tasman Drive / Convention Center (Intersection ID 9) to reflect the expected access to the new retail development area.
- The traffic analysis is completed using Synchro software to assess the performance of intersections using the Highway Capacity Manual 2000 (HCM 2000) methodology and is consistent with VTA Traffic Level of Service Analysis Guidelines as per City of Santa Clara requirements for traffic studies[11]. Since truck traffic volumes are low during peak times the standard 2% truck volume setting is applied in Synchro.

2.4 Other Transportation Impacts and Travel Demand Management

This Traffic Analysis Memo also includes an evaluation of other transportation impacts including freeway segments, game day analysis, construction traffic, transit effects and impacts on pedestrian and bike facilities. The impacts on construction traffic and pedestrian and bike facilities are not affected by the changes introduced for Scheme C and are therefore addressed through a narrative only without any additional numeric analysis provided in this report. The Travel Demand Management measures identified in the 2016 EIR are also applicable to Scheme C. However, to account for industrial employees, specific shift work related TDM measures are defined. The City of Santa Clara has adopted a new Climate Action Plan 2022. The City of Santa Clara will need to determine whether the proposed new industrial use is subject to the VMT reduction requirements set in the new Climate Action Plan.

[11]Note: The EIR used the TRAFFIX analysis software package. However, this software package is outdated and SYNCHRO and TRAFFIX both are based on the Highway Capacity Manual (https://www.trb.org/Main/Blurbs/175169.aspx) methods. Also, for subsequent DAP studies, SYNCHRO has been adopted.

3. Trip Generation

3.1 Trip Generation Rates

The following Tables 3.1 and 3.2 illustrate the trip generation rates adopted for City Center and the Northeast Parcel. Trip reductions include the trip internalization based on the rates listed in Table 3.3 for residential, hotel, retail, entertainment and restaurant (F&B) land uses. Office trips are not reduced by internalization. In addition to the internalization reduction (refer to Table 3.3), a 5% transit reduction is applied to City Center trips (refer to Table 3.4) with the exception of a small portion of Parcel 4 which does not fall within 0.5 miles of ACE and VTA transit stations. Transit reduction is not applied to Northeast Parcel trips.

Table 3.1 City Center Trip Generation Rates

Land-Use Type	Unit	Methodology	Parcel 4	Parcel 5	AM Rate[4]	PM Rate[4]	Daily[4]
Office	Employees	Silicon Valley Average Rate[1]	4,102,181 sqft	415,219 sqft	0.31	0.3	0.1 / 0.04 2.95
Supermarket	Sq ft	ITE (LUC 850) Fitted Curve[2]	50,000 sqft	NA	3.4	9.3	94.8
Shopping Center / Retail	Sqft	ITE (LUC 820) Fitted Curve	550,000 sqft	25,000 sqft	0.8 / 2.6	3.41 / 9.4	37.4 / 110.4
Restaurant (F&B)	Sqft	Other[3] Average Rate	100,000 sqft	25,000 sqft	7.29	10.69	170.04
Entertainment	Sqft	ITE (LUC 445) Average Rate	50,000 sqft	NA	NA	4.91	27.27[5]
Residential	Rooms	ITE (LUC 220) Fitted Curve	1,480 keys	200 keys	0.49 / 0.5	0.56 / 0.65	6.14 / 6.7
Hotel	Rooms	ITE (LUC 310) Average Rate	220 keys	480 keys	0.53	0.6	8.17

1 – Silicon Valley rate: AM / PM – 0.31/0.3 per employee with 270 sqft to be considered for each employee

2 – Fitted Curve for Supermarket (LUC 950) is available for PM Peak Hour and daily only

3 – Based on trip rate from DAP 2 and various restaurant types from ITE 9th Edition and ITE 10th Edition

4 – Trip rates based on fitted curve vary by area, hence two rates are provided for Parcel 4 and Parcel 5
LUC 220 AM Peak: T=0.49(X)+3.73; PM Peak: T= 0.55(X)+17.65; Daily: T = 6.06(X)+123.56
LUC 820 AM Peak: LN(T)=0.61Ln(X)+2.24; PM Peak: LN(T)=0.67Ln(X)+3.31; Daily: LN(T)=0.65Ln(X)+5.83
*LUC 850 AM Peak: 3.4; PM Peak: T= 0.74*Ln(X)+3.25; Daily: T=66.95(X)+1391.56*

5 – ITE 9th edition does not include a daily rate for LUC 445. To derive a daily rate, the peak hour rate is inflated based on the difference of daily to peak hour rates in the latest 11th edition of ITE

Table 3.2 Northeast Parcel Trip Generation Rates

Land-Use Type	ITE Code	Northeast Parcel	ITE 11th Edition		
			AM Rate (per 1000 sqft)	PM Rate (per 1000 sqft)	Daily Rate (per 1000 sqft)
Manufacturing (All Vehicles)	140	1,600,000 sqft	0.68	0.74	4.75
Manufacturing (Vehicles excluding trucks)	140	1,600,000 sqft	0.65	0.71	4.30
Warehousing (Trucks only)	150	1,600,000 sqft	0.02	0.03	0.6

Table 3.3 Internalization Reduction

Land-Use Type	Methodology	AM Internalization Reduction			PM Internalization Reduction			Weekend / Daily Internalization Reduction[1]		
		In	Out	Total	In	Out	Total	In	Out	Total
Retail	2016 EIR	33%	30%	32%	38%	37%	37%	35%	33%	34%
Restaurants	2016 EIR	32%	32%	32%	37%	37%	37%	35%	34%	34%
Entertainment	2016 EIR	--	--	--	38%	33%	35%	38%	33%	35%
Residential	Blended Rate (MXD Tool, ITE)	16%	17%	17%	32%	24%	28%	24%	21%	23%
Hotel	2016 EIR	32%	33%	32%	38%	36%	37%	35%	35%	35%

1 – Daily Internalization Reduction is the average of AM and PM Internalization Reductions

Table 3.4 Transit Reduction

Land-Use Type [1]	Parcel 4	Parcel 5	Transit Reduction
Office	2,872,181 sqft [2]	415,219 sqft	5%
Supermarket	50,000 sqft		5%
Shopping Center / Retail	550,000 sqft	25,000 sqft	5%
Restaurant (F&B)	100,000 sqft	25,000 sqft	5%
Entertainment	50,000 sqft		5%
Residential	1,480 keys	200 keys	5%
Hotel	220 keys	480 keys	5%

1 – No Public Transportation reduction was applied to the NE Parcel and part of Parcel 4 was also excluded from transit reduction
2 – Part of Parcel 4 (1,230,000 sqft of office) excludes public transportation reduction

3.2 Trip Generation Calculation and Comparison

The following Tables 3.5, 3.6 and 3.7 list the total trip generation for City Center and the Northeast Parcel for the 2016 EIR and Scheme C. The detailed calculation sheets are included in Appendix H.

The increase in density in City Center combined with a modification of the land use program results in small increases in total trips during the AM Peak hour (inbound) and PM Peak hour (outbound). Northeast Parcel peak hour trips are reduced significantly with the change in land use. Thus, overall, there is a reduction in trip generation totals for the Project for inbound and outbound and both AM and PM Peak hours. Daily trip generation is also reduced for Scheme C compared to the 2016 EIR.

Table 3.5 Trip Generation Total AM Peak Hour

AM Peak	City Center			Northeast Parcel			City Center + Northeast Parcel		
	AM Inbound	AM Outbound	Total AM	AM Inbound	AM Outbound	Total AM	AM Inbound	AM Outbound	**Total AM**
2016 EIR	4740	1530	6270	3270	480	3750	8010	2010	**10020**
Scheme C	5316	1599	6915	815	255	1070	6131	1854	**7985**
Delta	+12%	+5%	+10%	-75%	-47%	-71%	-23%	-8%	**-20%**

Table 3.6 Trip Generation Total PM Peak Hour

PM Peak	City Center			Northeast Parcel			City Center + Northeast Parcel		
	PM Inbound	PM Outbound	Total PM	PM Inbound	PM Outbound	Total PM	PM Inbound	PM Outbound	**Total PM**
2016 EIR	3040	4970	8010	1100	3200	4300	4140	8170	**12310**
Scheme C	2760	5465	8225	370	815	1185	3130	6280	**9410**
Delta	-9%	+10%	+3%	-66%	-75%	-72%	-24%	-23%	**-24%**

Table 3.7 Trip Generation Total Daily Peak Hour

PM Peak	City Center			Northeast Parcel			City Center + Northeast Parcel		
	Daily Inbound	Daily Outbound	Total Daily	Daily Inbound	Daily Outbound	Total Daily	Daily Inbound	Daily Outbound	**Total Daily**
2016 EIR	48595	48595	97190	21770	21770	43540	70365	70365	**140730**
Scheme C	45198	45198	90396	3920	3920	7840	49118	49118	**98236**
Delta	-7%	-7%	-7%	-82%	-82%	-82%	-30%	-30%	**-30%**

4. Trip Distribution

The trip distribution for Project trips is derived from a 2035 CSC model run previously completed for the Kylli Mixed Use Development project which includes the Related Santa Clara Project. The trip distribution is then extracted using a select zone analysis. The following Table 4.1 lists the vehicle distribution assumptions adopted for the 2016 EIR and the updated distribution used for this traffic study. The updated distribution, which incorporates other developments in North Santa Clara that were not included in the 2016 EIR, shows an increase in traffic from and to the south via Great America Parkway and a decrease from and to the south via Lafayette Street. This reflects the shift of density and hence trips from the Northeast Parcel to City Center and new developments completed southwest of City Center. In addition, the decrease in traffic west on SR 237 may be attributed to the growth of local development in North Santa Clara, potentially causing a shift in traffic to Tasman Drive West. Resulting changes to traffic volume distribution for Project traffic at the 'gateway points' are as shown in Figure 4.1.

Table 4.1 Trip Distribution (Vehicles)

Gateway / Zone	AM 2016 EIR	PM 2016 EIR	AM CSC Model for Background	PM CSC Model for Background	AM CSC Model for Cumulative	PM CSC Model for Cumulative
SR 237 West	27%	14%	16%	11%	16%	10%
SR237 East	15%	11%	14%	16%	13%	15%
Lafayette Street North	2%	4%	1%	1%	1%	1%
Sunnyvale / Old Mountain View Avenue	1%	2%	0%	1%	0%	1%
Tasman Drive West	7%	13%	10%	13%	9%	12%
Lafayette Street South	20%	20%	17%	20%	16%	19%
Lick Mill Boulevard	7%	6%	6%	6%	6%	6%
Tasman Drive East	12%	11%	10%	9%	10%	9%
Tasman East Specific Plan	--	--	2%	2%	2%	2%
Bunker Hill Lane West Approach	--	--	1%	1%	1%	1%
Kylli Mixed-Use Site	--	--	0%	0%	2%	2%
Patrick Henry Drive SP Site	--	--	0%	0%	2%	3%
Mission College Blvd E Approach	--	--	3%	4%	3%	4%
Mission College Blvd W Approach	--	--	3%	2%	3%	2%
US 101 North	--	--	0%	1%	0%	1%
US 101 South	--	--	6%	3%	5%	3%
Bowers Ave S (Great America Parkway South in 2016 EIR)	9%	19%	11%	10%	11%	9%

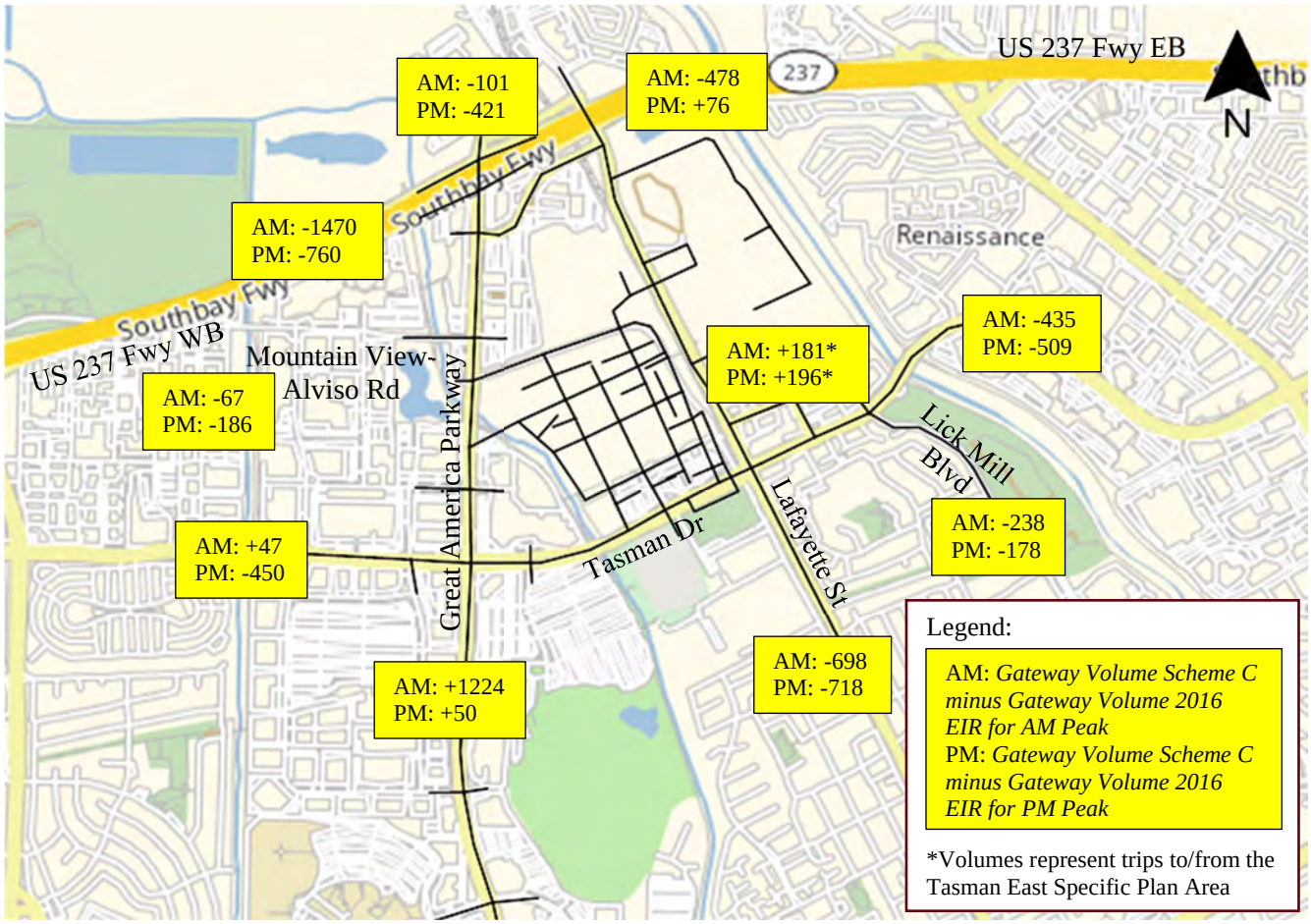


Figure 4.1: Project Traffic Volumes at Gateway Points (Scheme C minus 2016 EIR)

Table 4.2 lists the truck distribution assumptions used for this study which is also derived from a CSC model run. It reflects the anticipated main truck routes via SR 237 and Lafayette Street.
Figure 4.2 illustrates the envisaged truck traffic assignment to Northeast Parcel access points and the surrounding road network. It is planned by the developer to restrict truck access to the site to the northern access to the Northeast Parcel off Lafayette Street and which is located just south of intersection 85 (Great America Way / Lafayette Street). Based on the truck trip distribution obtained from the CSC model, trucks are primarily going to or coming from SR 237 (both east and west), Tasman Drive West, Lafayette Street and Bowers Avenue South. Only 5% of all trucks are expected to go to or come from Lick Mill Boulevard South and Tasman Drive East. For this traffic analysis it is assumed that these few trucks will not travel through the Tasman East Specific Plan Area. To support this assumption, it is proposed to implement a truck restriction on the Tasman East Specific Plan Area roadways (Calle De Luna, Calle Del Sol, Calle Del Mundo, and Lick Mill Extension North of Tasman Drive) except for local deliveries as illustrated in Figure 4.2.

Table 4.2 Trip Distribution (Trucks)

Gateway / Zone	AM 2016 EIR	PM 2016 EIR	AM CSC Model for Background	PM CSC Model for Background	AM CSC Model for Cumulative	PM CSC Model for Cumulative
SR 237 West	27%	14%	33%	22%	32%	21%
SR237 East	15%	11%	22%	24%	21%	24%
Lafayette Street North	2%	4%	5%	4%	5%	4%
Sunnyvale / Old Mountain View Ave	1%	2%	1%	0%	1%	1%
Tasman Drive West	7%	13%	1%	11%	1%	10%
Lafayette Street South	20%	20%	31%	24%	30%	23%
Lick Mill Boulevard	7%	6%	0%	3%	0%	3%
Tasman Drive East	12%	11%	0%	2%	0%	2%
Tasman East Specific Plan	--	--	0%	0%	0%	0%
Bunker Hill Lane West Approach	--	--	0%	1%	0%	1%
Kylli Mixed-Use Site	--	--	0%	0%	1%	1%
Patrick Henry Drive SP Site	--	--	0%	0%	1%	1%
Mission College Blvd E Approach	--	--	1%	1%	1%	1%
Mission College Blvd W Approach	--	--	0%	1%	1%	1%
US 101 North	--	--	0%	0%	0%	0%
US 101 South	--	--	1%	2%	1%	2%
Bowers Ave S (Great America Parkway South in 2016 EIR)	9%	19%	5%	5%	5%	5%

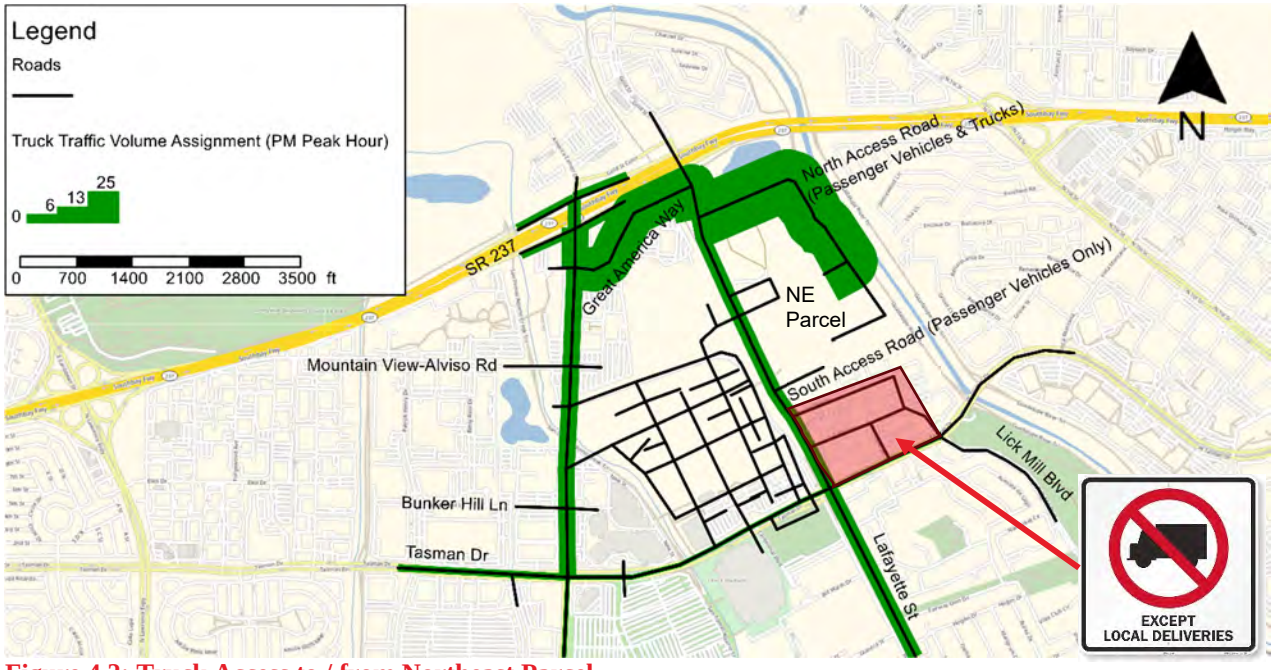


Figure 4.2: Truck Access to / from Northeast Parcel

5. Comparison of Traffic Impacts Without Lick Mill Connection and With Lick Mill Connection

5.1 Traffic Volume Comparison

Figures 5.1 and 5.2 illustrate Project trips for the Scheme C access configuration Without the Lick Mill Connection. Figures 5.3 and 5.4 show Project trips With the Lick Mill Connection. The plots demonstrate that due to the reduced trip generation in the Northeast Parcel, a limited amount of Project traffic would be using the Lick Mill Connection.

During the AM Peak hour 698 Project trips are forecast to use the Lick Mill Connection across both directions and 664 vehicles during the PM Peak hour. The Lick Mill Connection would carry traffic from and to Tasman Drive traveling via Lick Mill Boulevard North as well as traffic from and to Lafayette Street traveling via Calle de Mundo. Figures 5.3 and 5.4 also demonstrate that only 374 vehicles in the AM Peak hour and 428 vehicles in the PM Peak hour are using the Lick Mill Connection and then also Lick Mill Boulevard North to and from the intersection of Tasman Drive / Lick Mill Boulevard (Intersection ID14). Figures 5.5 and 5.6 further illustrate the assignment of Northeast Parcel trips by presenting a Select Zone (Flow Bundle) analysis for the zone representing the Northeast Parcel. The Figures show total Project trips (in black) and trips from and to the Northeast Parcel only (blue). This analysis also demonstrates that the larger proportion of trips to and from the Northeast Parcel which is using the Lick Mill Connection is coming from (AM Peak) or heading towards (PM Peak) Tasman Drive West with limited trips to and from Lick Mill Boulevard South and Tasman Drive East.

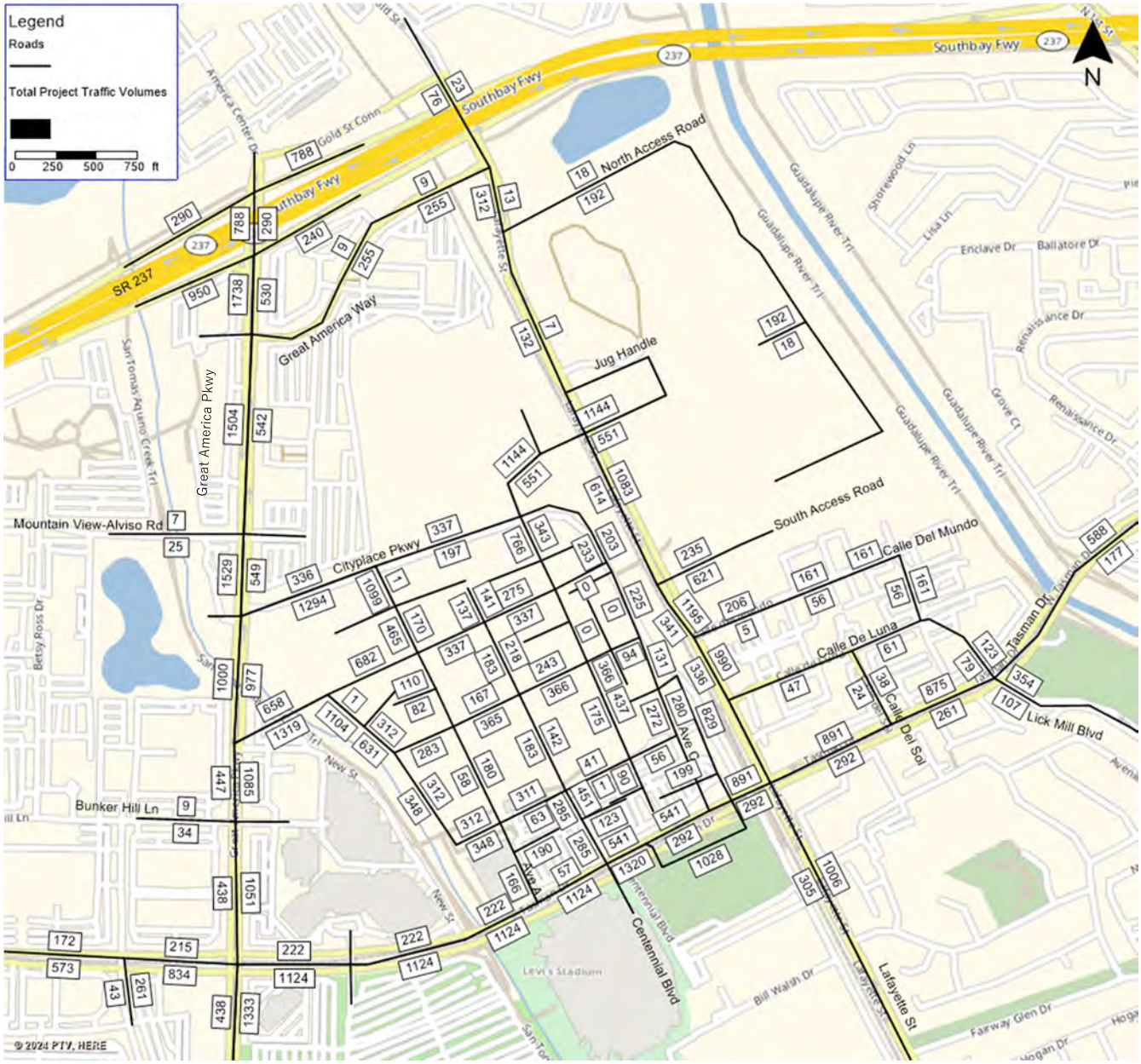


Figure 5.1: Project Traffic Volumes AM Peak Hour Without Lick Mill Connection

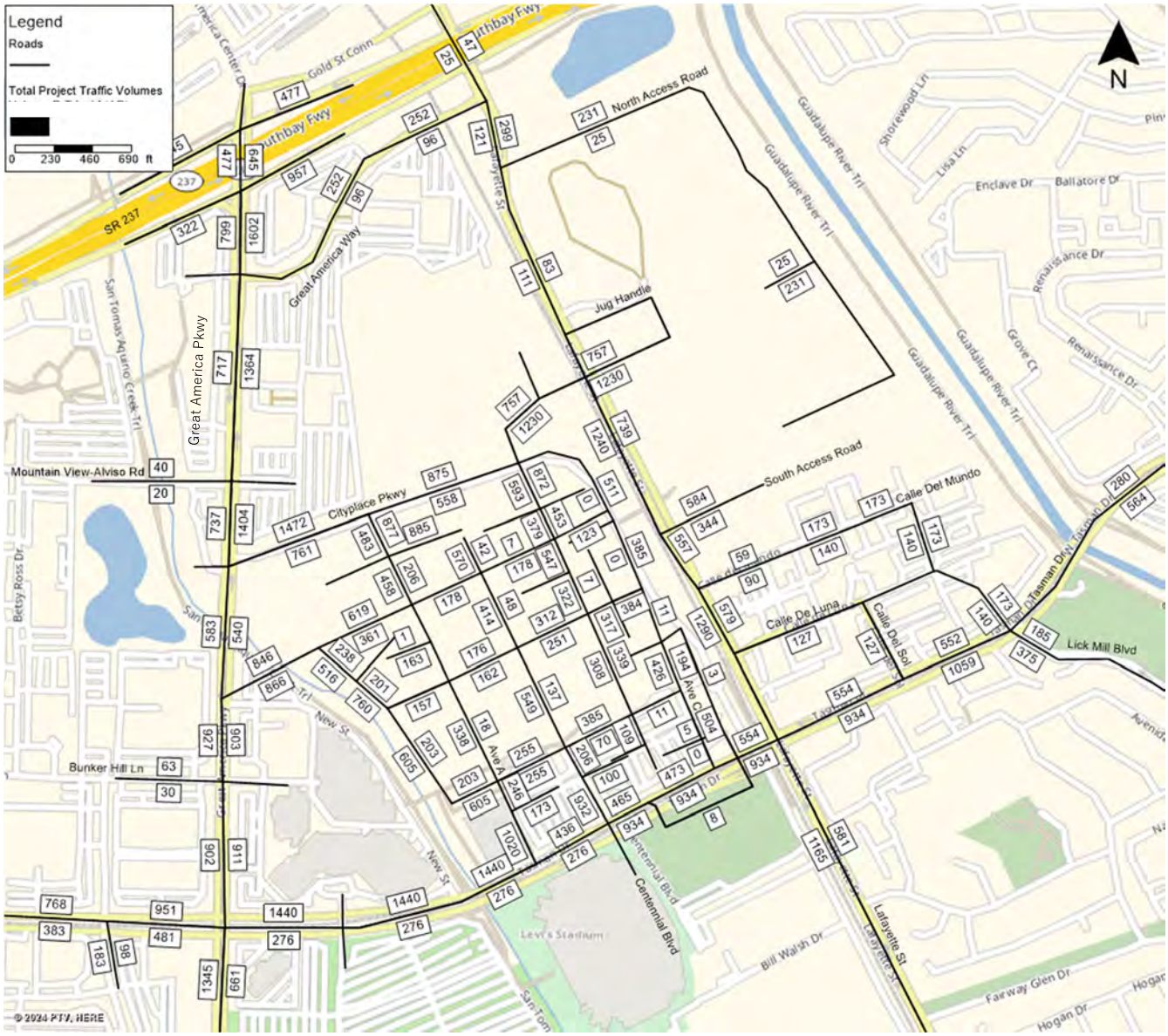


Figure 5.2: Project Traffic Volumes PM Peak Hour Without Lick Mill Connection

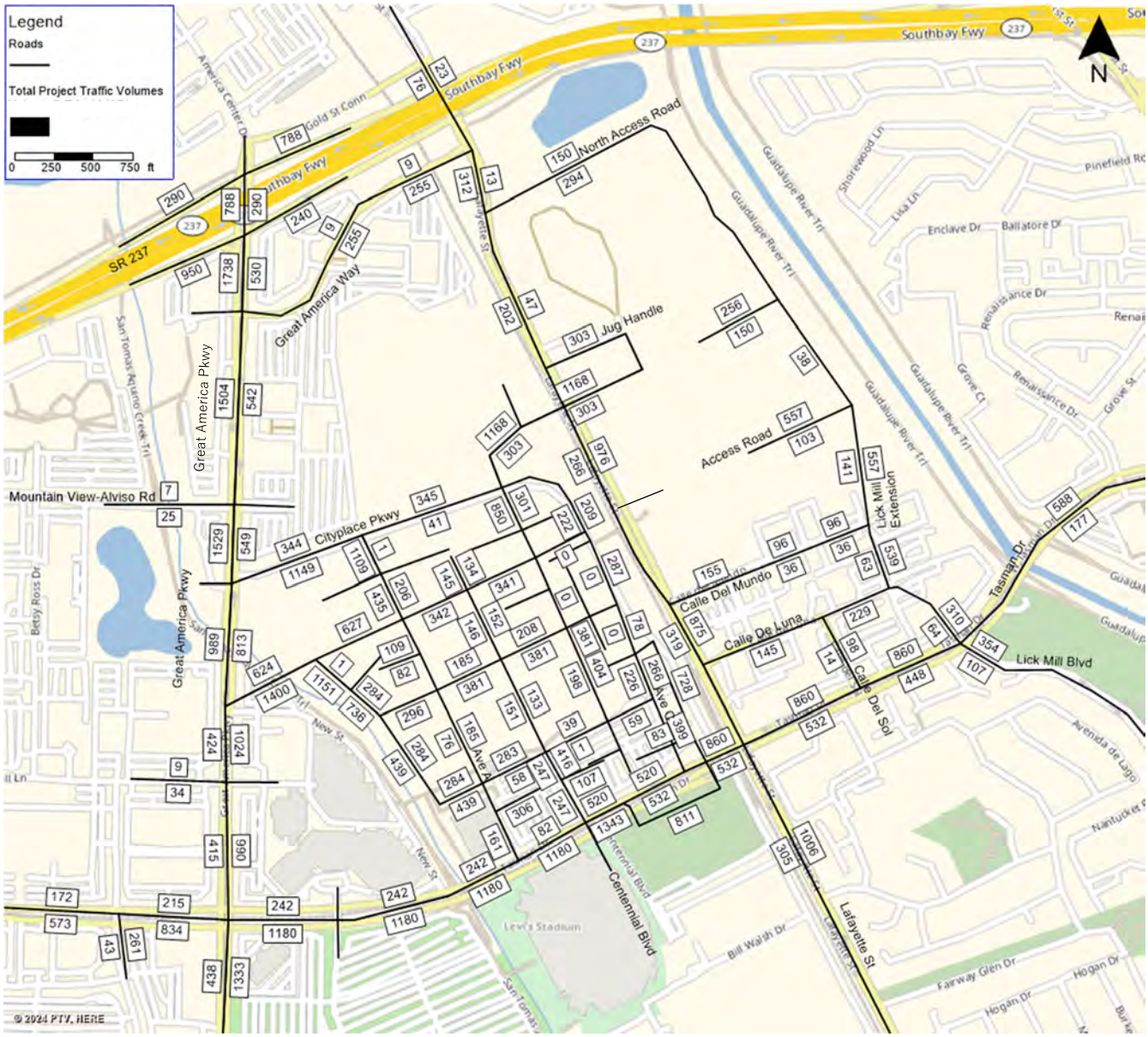


Figure 5.3: Project Traffic Volumes AM Peak Hour With Lick Mill Connection

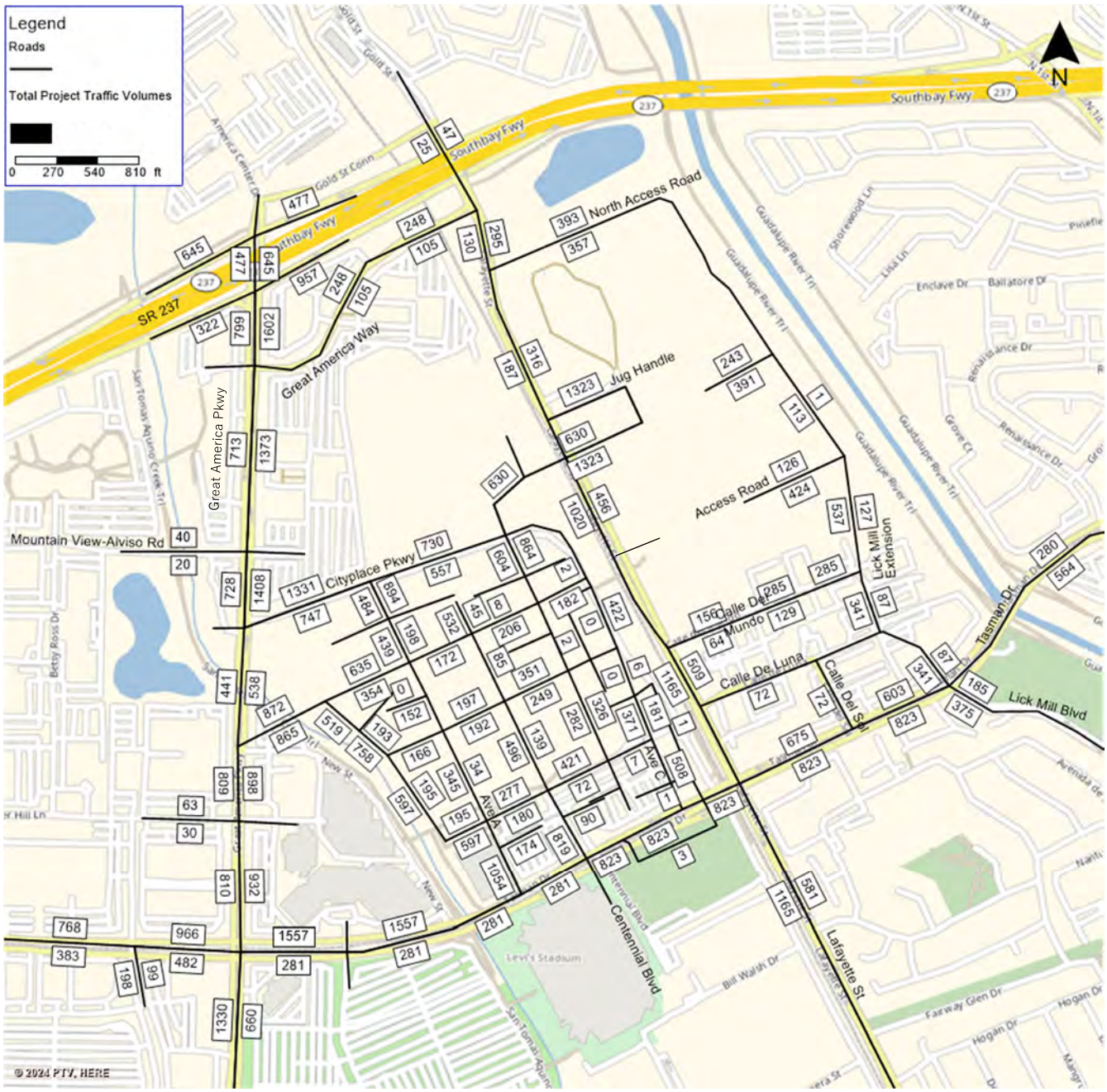


Figure 5.4: Project Traffic Volumes PM Peak Hour With Lick Mill Connection

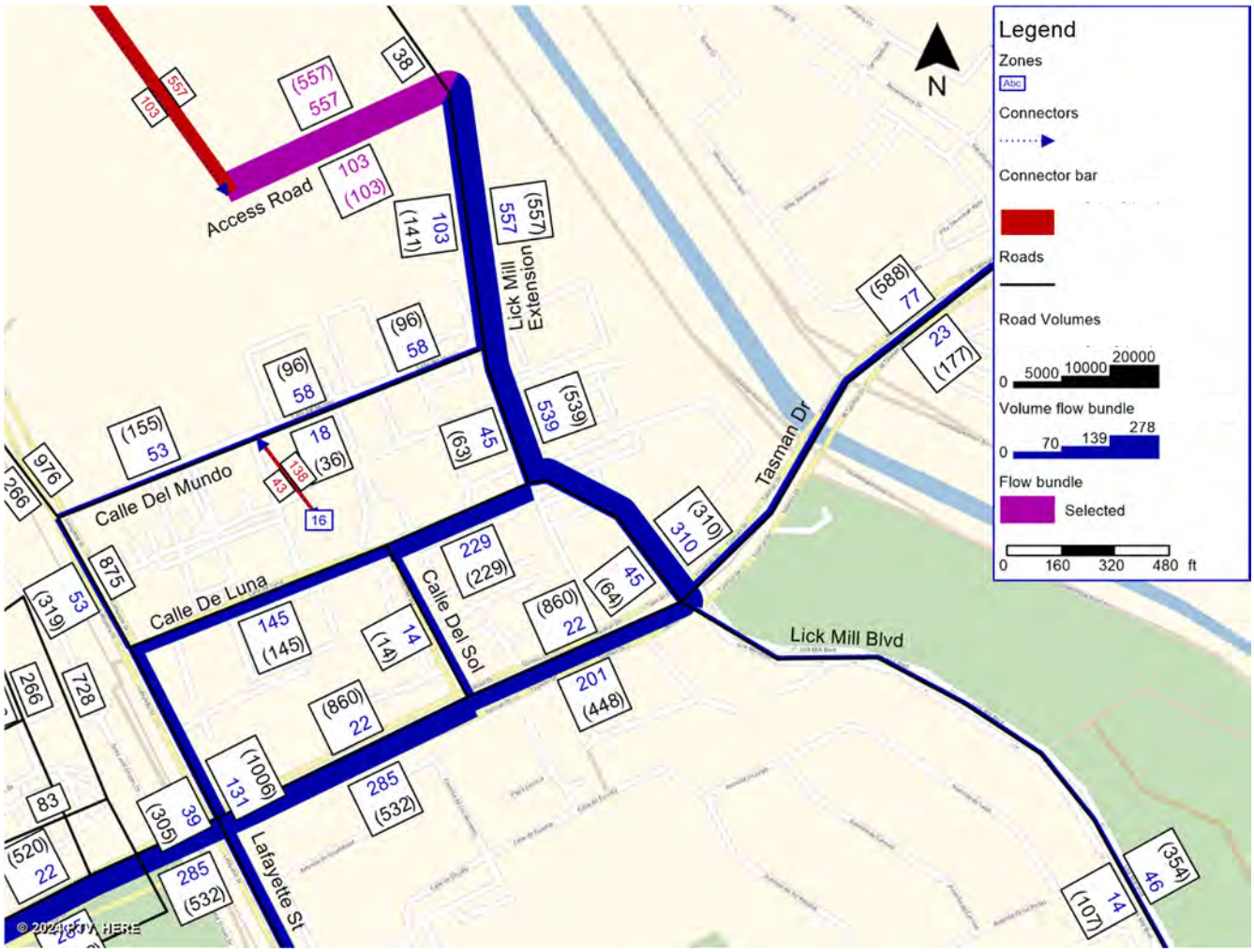


Figure 5.5: AM Peak Project Trips Select Zone Plot (Flow Bundle) for Northeast Parcel with Lick Mill Connection

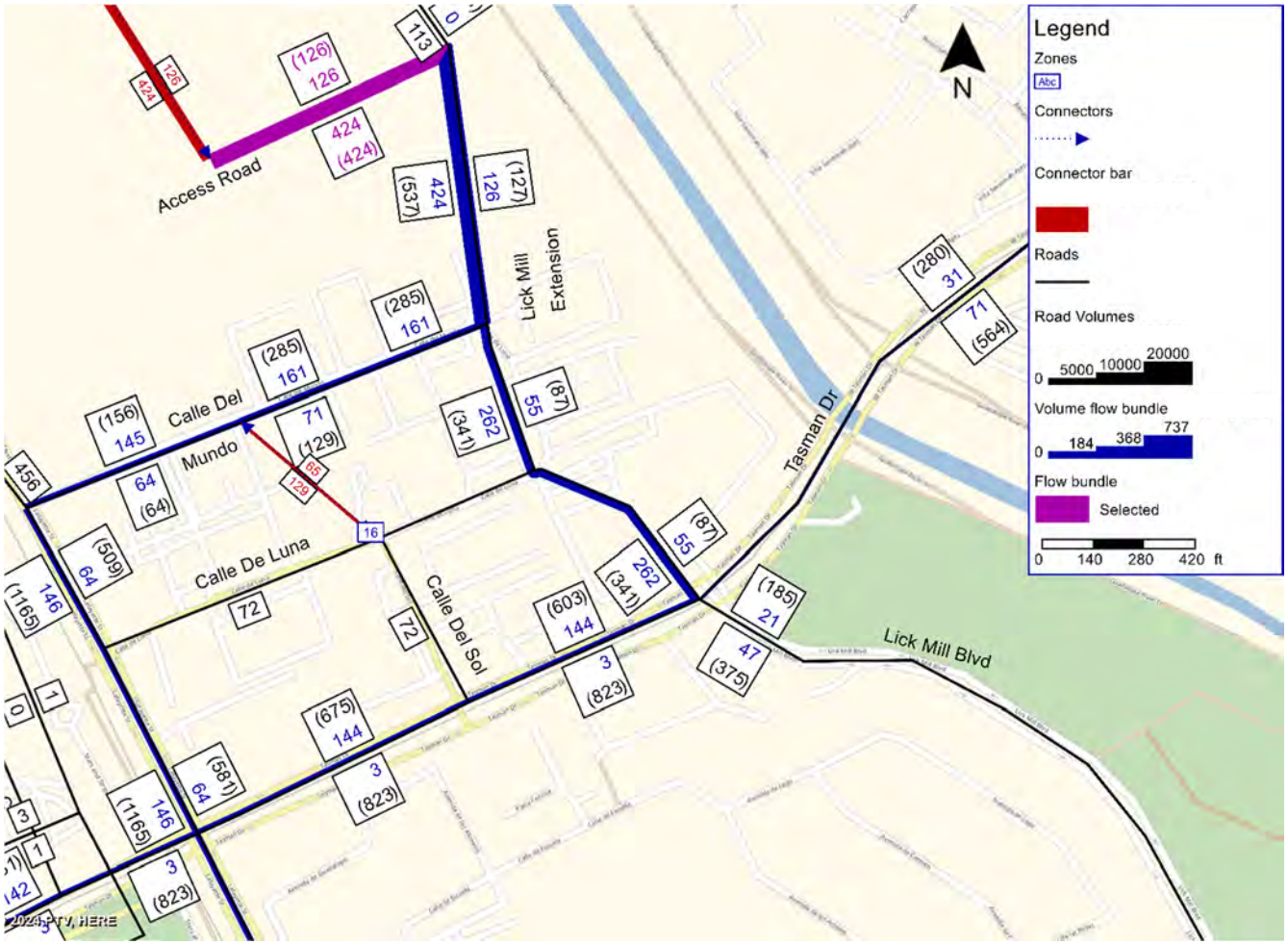


Figure 5.6: PM Peak Project Trips Select Zone Plot (Flow Bundle) for Northeast Parcel with Lick Mill Connection

The following table 5.1 lists selected intersections and movements showing the differences in traffic volumes for each movement for Cumulative No Project, Project and Cumulative with Project conditions between the two access schemes for the AM and PM Peak hours[12].

Due to the different road network configurations for the Northeast Parcel for the Without Lick Mill Connection and With Lick Mill Connection access schemes, link and turning volumes on specific segments of Lafayette Street show clear differences for Project trips as presented in Table 5.1. However, the impact is limited to a few road segments and intersections only. Without the Lick Mill Connection, the analysis demonstrates that several turning movements have a reduced traffic volume compared to the With Lick Mill Connection access scheme. Only a few turning movements at intersections on Lafayette Street providing direct access to the Northeast Parcel record an increase in Project traffic volumes by 200 vehicles or more for the Without Lick Mill Connection access scheme compared to the With Lick Mill Connection access scheme.

Without the Lick Mill Connection, a reduction in Cumulative No Project trips is forecast by the CSC model to travel northbound from the intersection of Tasman Drive / Lick Mill Boulevard (Intersection ID 14) via the Lick Mill Connection and through the Northeast Parcel to Lafayette Street during the AM Peak hour whereas volumes increase along Lafayette Street northbound. In total there is a decrease in traffic volumes northbound in the Northeast Parcel and Tasman East Specific Plan area in general with clear reduction in traffic volumes at the northbound left turn from Lafayette Street to Great America Way (Intersection ID 85) during the AM Peak hour. Without the Lick Mill Connection there is an increase in traffic northbound on the section of Great America Parkway between Second Street and Great America Way and a reduction in traffic southbound on Great America Parkway along that segment for Cumulative No Project traffic volumes during the AM Peak hour.

The directional traffic volume increase and decrease is generally reversed during the PM Peak hour with a clear increase of traffic volumes along Lafayette Street southbound between Great America Way and Calle de Luna due to Cumulative no Project trips traveling along Lafayette Street instead of going through the Northeast Parcel Without the Lick Mill Connection available. There is a decrease in traffic volumes southbound in the Northeast Parcel and Tasman East Specific Plan area in general and a clearly reduced right turn traffic volume at the intersection of Lafayette Street / Great America Way (Intersection ID 85). Without the Lick Mill Connection, during the PM Peak hour there is a small increase in traffic southbound on the section of Great America Parkway between Second Street and Great America Way and a reduction in traffic northbound on Great America Parkway along that segment for Cumulative No Project traffic volumes.

Table 5.1 lists the volume differences for turning movements and Appendix G depicts the Without Lick Mill No Project volume differences as derived from the CSC model.

[12] Table 5.1 only lists turning movements within the reduced study area considered for this comparison and only lists turning movements where a difference in volumes can be observed. All movements with zero difference are removed from this table. The full listing is available in Appendix A.

Table 5.1: Traffic Volume Differences Without Lick Mill Connection

ID	Street	Direction	Scheme C Traffic Volumes Difference Without Lick Mill Connection *(Without Lick Mill Connection minus With Lick Mill Connection)*					
			Difference Cumulative No Project AM Peak	Difference Cumulative No Project PM Peak	Difference Project Trips AM Peak	Difference Project Trips PM Peak	Difference Cumulative With Project AM Peak	Difference Cumulative With Project PM Peak
8	Tasman Drive	EBL	0	0	7	5	7	5
8	Tasman Drive	EBT	0	0	-7	-5	-7	-5
8	Great America Pkwy	NBR	0	-50	-53	0	-53	-50
8	Great America Pkwy	NBT	0	-100	53	1	53	-99
8	Great America Pkwy	SBL	0	50	4	0	4	50
8	Great America Pkwy	SBR	0	0	22	22	22	22
8	Great America Pkwy	SBT	80	50	-2	71	78	121
8	Tasman Drive	WBL	0	0	2	-56	2	-56
8	Tasman Drive	WBR	0	0	0	-25	0	-25
8	Tasman Drive	WBT	-100	0	-22	-35	-122	-35
11	Tasman Dr	EBL	50	0	5	-3	55	-3
11	Tasman Dr	EBT	-49	-50	-61	-2	-110	-52
11	Centennial Blvd	SBL	0	0	38	113	38	113
11	Tasman Dr	WBR	0	0	47	10	47	10
11	Tasman Dr	WBT	-100	0	-25	-72	-125	-72
13	Tasman Dr	EBL	0	-50	-60	0	-60	-50
13	Tasman Dr	EBT	-49	0	-181	111	-230	111
13	Calle del Sol	SBL	-100	0	-6	125	-106	125
13	Calle del Sol	SBR	-100	-90	16	-70	-84	-160
13	Tasman Dr	WBR	0	-225	0	0	0	-225
13	Tasman Dr	WBT	50	0	15	-51	65	-51
14	Tasman Dr	EBL	-49	0	-187	98	-236	98
14	Tasman Dr	EBR	0	0	0	67	0	67
14	Tasman Dr	EBT	0	0	0	71	0	71
14	Lick Mill Blvd	NBL	50	-150	0	12	50	-138
14	Lick Mill Blvd	NBR	70	250	0	0	70	250
14	Lick Mill Blvd	NBT	-202	0	0	-12	-202	-12
14	Lick Mill Blvd	SBL	50	-49	0	-71	50	-120
14	Lick Mill Blvd	SBR	0	-74	15	-63	15	-137
14	Lick Mill Blvd	SBT	0	-44	0	-67	0	-111
14	Tasman Dr	WBL	120	50	0	0	120	50
14	Tasman Dr	WBR	-148	0	0	0	-148	0
59	Great America Pkwy	NBR	0	-250	0	0	0	-250
59	Great America Pkwy	NBT	30	50	0	-9	30	41

ID	Street	Direction	Scheme C Traffic Volumes Difference Without Lick Mill Connection *(Without Lick Mill Connection minus With Lick Mill Connection)*					
			Difference Cumulative No Project AM Peak	Difference Cumulative No Project PM Peak	Difference Project Trips AM Peak	Difference Project Trips PM Peak	Difference Cumulative With Project AM Peak	Difference Cumulative With Project PM Peak
59	Great America Pkwy	SBL	0	-90	0	-9	0	-99
59	Great America Pkwy	SBT	0	50	0	9	0	59
59	Great America Way	WBL	-300	0	0	-5	-300	-5
59	Great America Way	WBR	-100	100	0	9	-100	109
60	OMV-Alviso Rd	EBL	-70	-50	0	0	-70	-50
60	OMV-Alviso Rd	EBR	15	0	0	0	15	0
60	Great America Pkwy	NBL	0	0	0	5	0	5
60	Great America Pkwy	NBT	100	-150	0	-9	100	-159
60	Great America Pkwy	SBR	-100	0	0	-5	-100	-5
60	Great America Pkwy	SBT	-200	50	0	9	-200	59
60	OMV-Alviso Rd	WBL	-15	0	0	0	-15	0
61	Great America Pkwy	NBR	0	0	144	9	144	9
61	Great America Pkwy	NBT	100	-100	19	-6	119	-106
61	Great America Pkwy	SBL	-120	0	0	5	-120	5
61	Great America Pkwy	SBT	-80	50	0	4	-80	54
61	City Place Pkwy	WBL	0	0	11	138	11	138
61	City Place Pkwy	WBR	0	-50	-19	2	-19	-48
62	Great America Pkwy	NBR	0	-50	-84	-4	-84	-54
62	Great America Pkwy	NBT	100	-100	144	9	244	-91
62	Great America Pkwy	SBL	0	0	2	5	2	5
62	Great America Pkwy	SBT	-80	50	10	138	-70	188
62	Second St	WBL	0	0	15	-20	15	-20
62	Second St	WBR	0	0	20	-8	20	-8
85	Great America Way	EBL	0	50	0	0	0	50
85	Great America Way	EBR	0	-390	0	-9	0	-399
85	Lafayette St	NBL	-400	100	0	4	-400	104
85	Lafayette St	NBT	-31	-300	0	0	-31	-300
85	Lafayette St	SBT	-50	-90	0	0	-50	-90
86	Lafayette St	NBR	0	0	-40	-242	-40	-242
86	Lafayette St	NBT	380	-150	0	9	380	-141
86	Lafayette St	SBL	0	-830	-62	-90	-62	-920
86	Lafayette St	SBT	-50	350	62	81	12	431
86	North Access Rd	WBL	0	0	-132	-157	-132	-157
86	North Access Rd	WBR	-811	-50	0	-5	-811	-55
87	Lafayette St	NBR	0	0	107	283	107	283

ID	Street	Direction	Scheme C Traffic Volumes Difference Without Lick Mill Connection *(Without Lick Mill Connection minus With Lick Mill Connection)*					
			Difference Cumulative No Project AM Peak	Difference Cumulative No Project PM Peak	Difference Project Trips AM Peak	Difference Project Trips PM Peak	Difference Cumulative With Project AM Peak	Difference Cumulative With Project PM Peak
87	Lafayette St	NBT	510	-150	0	0	510	-150
87	Lafayette St	SBL	0	-150	-131	-156	-131	-306
87	Lafayette St	SBT	-50	500	61	80	11	580
87	Jug Handle	WBL	0	0	288	140	288	140
87	Jug Handle	WBR	-40	0	-40	-233	-80	-233
88	Lafayette St	NBR	-20	-25	272	123	252	98
88	Lafayette St	NBT	640	-125	-53	-22	587	-147
88	Lafayette St	SBL	-25	-220	348	221	323	1
88	Lafayette St	SBT	-25	720	0	-1	-25	719
88	South Access Rd	WBL	-25	-20	75	280	50	260
88	South Access Rd	WBR	-120	-25	160	305	40	280
89	Lafayette St	NBR	0	-100	0	17	0	-83
89	Lafayette St	NBT	270	-150	115	53	385	-97
89	Lafayette St	SBL	0	350	5	9	5	359
89	Lafayette St	SBT	-50	350	70	270	20	620
89	Calle Del Mundo	WBL	-100	-100	-53	-145	-153	-245
89	Calle Del Mundo	WBR	350	0	104	48	454	48
90	Lafayette St	NBR	0	60	-115	-70	-115	-10
90	Lafayette St	NBT	-50	0	115	70	65	70
90	Lafayette St	SBL	-100	200	17	125	-83	325
90	Lafayette St	SBT	-50	50	0	0	-50	50
90	Calle de Luna	WBR	320	-250	0	0	320	-250
114	Calle De Luna	EBR	-100	60	10	55	-90	115
114	Calle De Luna	EBT	0	250	-108	0	-108	250
114	Calle Del Sol	NBL	200	-250	0	0	200	-250
114	Calle Del Sol	NBR	-150	-150	-60	0	-210	-150
114	Calle Del Sol	NBT	-50	0	0	0	-50	0
114	Calle De Luna	WBL	0	-150	0	0	0	-150

5.2 Intersection Performance Comparison

The following table 5.2 lists the intersection delay and LOS results for selected intersections which are affected by the access modification and removal of the Lick Mill Connection under Cumulative with Project conditions for Scheme C. There are more intersections with a decrease in traffic volumes than intersections with an increase in traffic volumes Without the Lick Mill Connection, which is largely a result of fewer Cumulative no Project trips attracted to the area Without the Lick Mill Connection as discussed in Section 5.1.

Out of the fifteen intersections evaluated for this comparison ten intersections have a LOS 'E' or 'F' With the Lick Mill Connection under Cumulative with Project conditions for Scheme C. Without the Lick Mill Connection, the number of intersections with a LOS 'E' or 'F' under Cumulative with Project conditions for Scheme C is reduced to seven. Intersections with a LOS 'E' or 'F' for either the AM Peak hour, PM Peak hour or both under both access schemes include:

- Great America Parkway and Tasman Drive (Intersection ID 8)
- Centennial Boulevard / Tasman Drive (Intersection ID 11)
- Lick Mill Boulevard / Tasman Drive (Intersection ID 14)
- Great America Parkway / Great America Way (Intersection ID 59)
- Great America Parkway / Old Mountain View-Alviso Road (Intersection ID 60)
- Lafayette Street / Calle Del Mundo (Intersection ID 89)

The additional intersections with a LOS 'E' or 'F' With the Lick Mill Connection are:

- Great America Parkway and Cityplace Parkway (Intersection ID 61)
- Great America Parkway and Second Street (Intersection ID 62)
- Lafayette Street and Great America Way (Intersection ID 85)
- Lafayette Street and North Access to Northeast Parcel (Intersection ID 86)

The intersection at Lafayette Street / Calle de Luna (Intersection ID 90) performs at LOS 'D' or better With the Lick Mill Connection and has a LOS 'E' for the PM Peak hour Without the Lick Mill Connection. The AM Peak hour LOS is 'C' Without the Lick Mill Connection.

For intersections with LOS 'E' or 'F' for both access schemes delays increase at three intersections Without the Lick Mill Connection compared to delays With the Lick Mill Connection. At three intersections delays are reduced Without the Lick Mill Connection compared to delays With the Lick Mill Connection. Intersections with a LOS 'D' or better for both access schemes generally perform at the same level for both access schemes with delay differences limited to a few seconds. Only the intersection at Lafayette Street / South Access Road (Intersection ID 88) has increased delays for the Without Lick Mill Connection access scheme with the LOS deteriorating from 'A' in both peak hours to 'D' during the AM Peak hour and 'B' during the PM Peak hour.

However, overall, the performance of intersections improves Without-the Lick Mill Connection compared to the access scheme With the Lick Mill Connection primarily due to a decrease in no Project trips. Synchro reports for the Cumulative with Project conditions for the two access schemes are included in Appendix D.

Table 5.2: Intersection Delay and LOS Without Lick Mill Connection and With Lick Mill Connection

ID	Intersection	Jurisd. / CMP	Peak Hour	Mitigated [13]	Scheme C With Lick Mill Connection Cumulative with Project		Scheme C Without Lick Mill Connection Cumulative with Project	
					Delay	LOS	Delay	LOS
8	Great America Parkway/Tasman Drive	Santa Clara (CMP)	AM	Yes	47	D	46	D
			PM	Yes	117	F	100	F
11	Centennial Boulevard/ Tasman Drive	Santa Clara	AM	No	23	C	19	B
			PM	No	75	E	126	F
13	Calle Del Sol/Tasman Drive	Santa Clara	AM	Yes	55	D	55	D
			PM	Yes	13	B	16	B
14	Lick Mill Blvd/ Tasman Drive	Santa Clara	AM	Yes	90	F	49	D
			PM	Yes	60	E	62	E
59	Great America Parkway/Great America Way	Santa Clara	AM	Yes	>180	F	162	F
			PM	Yes	17	F	131	F
60	Great America Parkway/Old Mountain View-Alviso Road	Santa Clara	AM	Yes	180	F	142	F
			PM	Yes	102	F	79	E
61	Great America Parkway/Cityplace Pkwy	Santa Clara	AM	New	37	D	32	C
			PM	New	60	E	46	D
62	Great America Parkway/Second St	Santa Clara	AM	New	16	B	17	B
			PM	New	59	E	48	D
85	Lafayette St/Great America Way	Santa Clara	AM	No	60	E	33	C
			PM	No	110	F	38	D
86	Lafayette St/North Access Road	Santa Clara	AM	New	14	B	14	B
			PM	New	78	E	7	A
87	Lafayette St/ Jug Handle	Santa Clara	AM	New	8	A	13	B
			PM	New	19	B	22	C
88	Lafayette St/South Access Road	Santa Clara	AM	New	6	A	37	D
			PM	New	9	A	14	B
89	Lafayette St/ Calle Del Mundo	Santa Clara	AM	Yes	63	E	102	F
			PM	Yes	17	B	15	B
90	Lafayette St/ Calle de Luna	Santa Clara	AM	Yes	25	C	25	C
			PM	Yes	54	D	60	E
114	Calle Del Sol / Calle De Luna	Santa Clara	AM	Yes	15	B	21	C
			PM	Yes	37	D	23	C

[13] For intersections with mitigation identified in the 2016 EIR, the mitigation is considered for this intersection analysis. For the intersections of Lafayette Street / Calle Del Mundo (Intersection ID 89) and Calle Del Sol / Calle De Luna (Intersection ID 114) the layout is informed by the Tasman East Specific Plan. To keep this table focused on the intersection impacts comparison, the mitigation adopted from the 2016 EIR is included in Appendix C. 'New' stands for new project-based intersections which do not currently exist.

5.3 Conclusion for Access Scheme Comparison

Removing the Lick Mill Connection does result in a limited reassignment of Project trips to the local street network and some turning movements. However, this is not detrimental for traffic access to the Related Santa Clara Project.

Without the Lick Mill Connection there is a decrease in Cumulative no Project trips within the study area which are otherwise forecast to use the Lick Mill Connection as a new route connecting the intersection of Tasman Drive / Lick Mill Boulevard (Intersection ID14) with Lafayette Street and then Great America Way and the SR 237. Therefore, Without the Lick Mill Connection several intersections in the reduced study area perform better than With the Lick Mill Connection.

The increased traffic within the Northeast Parcel With the Lick Mill Connection also poses an increased risk of conflicts of through traffic with truck circulation within the proposed industrial area.

Since there is no detrimental impact on the study area Without the Lick Mill Connection, the full traffic analysis study including Background with Project and Cumulative with Project conditions is completed for the Without Lick Mill Connection access scheme as proposed by Scheme C.

6. Background Conditions

The following Table 6.1 lists the intersection LOS and delays for Background with Project conditions comparing Scheme C with Scheme B assessed for the 2016 EIR. The analysis is based on the assumption that intersection improvements previously identified as part of the 2016 EIR and identified for development projects which have since been approved (refer to Section 2 listing the development projects considered in the study) would be implemented. Mitigations identified for the Tasman East Specific Plan are not considered for the intersection LOS analysis under Background with Project conditions. The list of mitigations as identified by the 2016 EIR is included in Appendix C.

The listed data shows that all intersections are expected to perform either at the same level or better under Scheme C than projected in the 2016 EIR and the number of intersections with a LOS of ‘E’ or ‘F’ is reduced from ten to one. This one intersection at Great America Parkway / Patrick Henry Drive (Intersection ID 65) is improved from LOS ‘F’ to LOS ‘E’. Also, delays are reduced, sometimes substantially, for nearly all intersections and peak hours.

This is a consequence of the reduced Project trips and adjusted background conditions adopting 2018/19 traffic counts as Background No Project traffic volumes for the study. The 2018/19 traffic counts are lower than the previously forecast Background No Project traffic volumes used in the 2016 EIR.

By reducing the number of intersections with a LOS of ‘E’ or ‘F’, Scheme C lessens the severity of the previously identified significant impact to intersection performance under Background with Project conditions.

Synchro reports for the Background with Project Conditions are included in Appendix D.

Table 6.1: Intersection Delay and Level of Service Background with Project Conditions

ID	Intersection	Jurisd. / CMP	Peak Hour	Mitigated[14]	Scheme B 2016 EIR Background with Project		Scheme C Background with Project	
					Delay	LOS	Delay	LOS
8	Great America Parkway/Tasman Drive	Santa Clara (CMP)	AM	Yes	89	F	29	C
			PM	Yes	162	F	37	D
9	Tasman Drive / Convention Center Access	Santa Clara	AM	No	46	D	22	C
			PM	No	121	F	20	C
10	Tasman Drive / Avenue A	Santa Clara	AM	New	6	A	4	A
			PM	New	28	C	32	C
11	Centennial Boulevard/Tasman Drive	Santa Clara	AM	No	110	F	15	B
			PM	No	>180	F	53	D
12	Tasman Drive / Avenue C	Santa Clara	AM	New	7	A	4	A
			PM	New	21	C	4	A
13	Calle Del Sol/Tasman Drive	Santa Clara	AM	Yes	14	B	18	B
			PM	Yes	19	B	9	A
14	Lick Mill Blvd/ Tasman Drive	Santa Clara	AM	Yes	73	E	49	D
			PM	Yes	57	E	33	C
57	Great America Parkway/ SR 237 WB	San Jose (CMP)	AM	Yes	52	D	39	D
			PM	Yes	50	D	42	D
58	Great America Parkway/ SR 237 EB	San Jose (CMP)	AM	Yes	31	C	7	A
			PM	Yes	23	C	13	B
59	Great America Parkway /Great America Way	Santa Clara	AM	Yes	70	E	16	B
			PM	Yes	41	D	33	C
60	Great America Parkway/Old Mountain View	Santa Clara	AM	Yes	92	F	26	C
			PM	Yes	55	D	24	C
61	Great America Parkway/ Cityplace Pkwy	Santa Clara	AM	New	25	C	15	B
			PM	New	23	C	19	B
62	Great America Parkway/ Second St	Santa Clara	AM	New	24	C	16	B
			PM	New	26	C	18	B
63	Great America Parkway / Bunker Hill Lane	Santa Clara	AM	No	13	B	13	B
			PM	No	17	B	17	B
64	Great America Parkway / Old Glory Lane	Santa Clara	AM	Yes	64	E	5	A
			PM	Yes	>180	F	8	A
65	Great America Parkway / Patrick Henry Drive	Santa Clara	AM	Yes	21	C	10	A
			PM	Yes	137	F	61	E

[14] For intersections with mitigation identified in the 2016 EIR, the mitigation is considered for this intersection analysis under both the currently proposed Scheme C and Scheme B in the 2016 EIR. To keep this table focused on the intersection impacts comparison, the mitigation adopted from the 2016 EIR is included in Appendix C. 'New' stands for new project-based intersections which do not currently exist.

ID	Intersection	Jurisd. / CMP	Peak Hour	Mitigated[14]	Scheme B 2016 EIR Background with Project		Scheme C Background with Project	
					Delay	LOS	Delay	LOS
66	Great America Parkway / Mission College Boulevard	Santa Clara (CMP)	AM	Yes	53	D	37	D
			PM	Yes	99	F	54	D
67	Great America Parkway / US 101 NB Off Ramp	Santa Clara (CMP)	AM	No	19	B	9	A
			PM	No	19	B	8	A
68	Bowers Avenue / US 101 SB Off Ramp	Santa Clara (CMP)	AM	No	27	C	8	A
			PM	No	10	A	13	B
85	Lafayette St/Great America Way	Santa Clara	AM	No	55	D	8	A
			PM	No	36	D	17	B
86	Lafayette St/North Access Road	Santa Clara	AM	New	17	B	10	A
			PM	New	19	B	6	A
87	Lafayette St/ Jug Handle	Santa Clara	AM	New	31	C	9	A
			PM	New	32	C	16	B
88	Lafayette St/South Access Road	Santa Clara	AM	New	Not analyzed	Not analyzed	13	B
			PM	New			11	B
89[15]	Lafayette St/ Calle Del Mundo	Santa Clara	AM	Yes	>180*	F*	21*	B*
			PM	Yes	173*	F*	2*	A*
90	Lafayette St/ Calle de Luna	Santa Clara	AM	Yes	49	D	14	B
			PM	Yes	22	C	23	C
114	Calle Del Sol / Calle De Luna	Santa Clara	AM	Yes	10	B	5	A
			PM	Yes	15	B	7	A

* 2016 EIR delay reported as average intersection delay for Side Street Stop Controlled Intersection (refer to EIR Table 3.3-22). The same approach is adopted for Scheme C delay and LOS analysis.

[15] The background plus project volumes under Scheme B in 2016 EIR would not warrant a signal at this intersection and therefore a traffic signal was not proposed in the 2016 EIR. The improvement to signalize the intersection of Lafayette St with Calle Del Mundo was identified in the Tasman East Specific Plan and Tasman East would fully fund this improvement. However, the Tasman East Specific Plan will not be completed for Background conditions and therefore this intersection is evaluated as unsignalized for Background + Cumulative Conditions.

7. Cumulative Conditions

7.1 Intersection Analysis Cumulative with Project Conditions

As a consequence of significant changes to inputs and assumptions for cumulative traffic volumes, Scheme C Cumulative with Project conditions traffic volumes are different than those presented in the 2016 EIR for Scheme B. As outlined in Section 2, Cumulative no Project volumes are based on the latest available CSC Travel Demand Model outputs considering current data for development projects and adjusted for 2018/19 traffic counts. Project trips, though reduced in total as illustrated in Section 3, are also subject to a change in distribution which does affect the traffic volumes and specific turning movements at some intersections in the study area. Refer to Appendix A for a full traffic volume listing and Appendix B for turning movement figures.

The analysis is based on the assumption that intersection improvements previously identified as part of the 2016 EIR and identified for development projects which have since been approved (refer to Section 2 listing the development projects considered in the study) would be implemented. Mitigation identified by the Tasman East Specific Plan are also accounted for. The list of mitigations considered for the Cumulative with Project LOS analysis is included in Appendix C.

Table 7.1 below lists the intersection LOS and delay results for Scheme C and the 2016 EIR. Without the Lick Mill Connection, the traffic analysis for Scheme C identified eleven intersections with a LOS ‘E’ or ‘F’ under Cumulative with Project conditions. The 2016 EIR also identified eleven intersections with a LOS ‘E’ or ‘F’ under Cumulative with Project conditions. There are ten intersections with a LOS ‘E’ or ‘F’ for either the AM Peak hour, PM Peak hour or both identified for both Scheme B in the 2016 EIR and Scheme C as follows:

- Great America Parkway and Tasman Drive (Intersection ID 8)
- Centennial Boulevard / Tasman Drive (Intersection ID 11)
- Lick Mill Boulevard / Tasman Drive (Intersection ID 14)
- Great America Parkway / Great America Way (Intersection ID 59)
- Great America Parkway / Old Mountain View-Alviso Road (Intersection ID 60)
- Great America Parkway / Old Glory Lane (Intersection ID 64)
- Great America Parkway / Patrick Henry Drive (Intersection ID 65)
- Great America Parkway / Mission College Boulevard (Intersection ID 66)
- Lafayette Street / Calle Del Mundo (Intersection ID 89)
- Lafayette St/ Calle de Luna (Intersection ID 90)

Out of these ten intersections with a LOS ‘E’ or ‘F’ in both the 2016 EIR Scheme B and Scheme C analysis six record less delay under Scheme C and four result in an increase in delay.

The intersection at Tasman Drive / Convention Center (Intersection ID 9) performs better under Scheme C with a LOS of ‘F’ for both peak hours in the 2016 EIR and LOS ‘D’ during the PM Peak hour and LOS ‘B’ during the AM Peak hour for Scheme C. The intersection at Great America Way / Bunker Hill (Intersection ID 63) deteriorates from LOS ‘B’ in the 2016 EIR to LOS ‘E’ for Scheme C during the PM Peak hour largely as a result of no Project trips generated by recently approved other

development projects in this area. This is the only new intersection identified by Scheme C exceeding the established level of service standard.

The intersection at Great America Parkway / Great America Way (Intersection ID 59) results in a deteriorating LOS from 'D' to 'F' under Scheme C for the AM Peak hour and from LOS 'E' to 'F' during the PM Peak hour. The intersection at Lafayette Street / Calle de Luna (Intersection ID 90) improves from LOS 'E' to 'C' for Scheme C during the AM Peak hour and deteriorates from LOS 'C' to 'E' during the PM Peak hour.

Synchro reports are included in Appendix D.

Table 7.1: Intersection Delay and Level of Service Cumulative with Project Conditions

ID	Intersection	Jurisdiction / CMP	Peak Hour	Mitigated [16]	Scheme B 2016 EIR Cumulative with Project		Scheme C Cumulative with Project	
					Delay	LOS	Delay	LOS
8	Great America Parkway/ Tasman Drive	Santa Clara (CMP)	AM	Yes	150	F	46	D
			PM	Yes	>180	F	100	F
9	Tasman Drive / Convention Center Access	Santa Clara	AM	No	131	F	18	B
			PM	No	163	F	46	D
10	Tasman Drive / Avenue A	Santa Clara	AM	New	6	A	6	A
			PM	New	38	D	29	C
11	Centennial Boulevard/ Tasman Drive	Santa Clara	AM	No	168	F	19	B
			PM	No	>180	F	126	F
12	Tasman Drive / Avenue C	Santa Clara	AM	New	31	C	6	A
			PM	New	24	C	9	A
13	Calle Del Sol/ Tasman Drive	Santa Clara	AM	Yes	43	D	55	D
			PM	Yes	23	C	16	B
14	Lick Mill Blvd/ Tasman Drive	Santa Clara	AM	Yes	155	F	49	D
			PM	Yes	116	F	62	E
57	Great America Parkway/SR 237 WB	San Jose (CMP)	AM	Yes	46	D	22	C
			PM	Yes	33	C	54	D
58	Great America Parkway/SR 237 EB	San Jose (CMP)	AM	Yes	28	C	6	A
			PM	Yes	27	C	50	D
59	Great America Parkway/Great America Way	Santa Clara	AM	Yes	51	D	162	F
			PM	Yes	68	E	131	F
60	Great America Parkway/Old Mountain View	Santa Clara	AM	Yes	91	F	142	F
			PM	Yes	55	E	79	E

[16] For intersections with mitigation identified in the 2016 EIR, the mitigation is considered for this intersection analysis. For the intersections of Lafayette Street / Calle Del Mundo (Intersection ID 89) and Calle Del Sol / Calle De Luna (Intersection ID 114) the layout is informed by the Tasman East Specific Plan. To keep this table focused on the intersection impacts comparison, the mitigation adopted from the 2016 EIR is included in Appendix C. 'New' stands for new project-based intersections which do not currently exist.

ID	Intersection	Jurisdiction / CMP	Peak Hour	Mitigated [16]	Scheme B 2016 EIR Cumulative with Project		Scheme C Cumulative with Project	
					Delay	LOS	Delay	LOS
61	Great America Parkway/ Cityplace Pkwy	Santa Clara	AM	New	22	C	32	C
			PM	New	23	C	46	D
62	Great America Parkway/Second St	Santa Clara	AM	New	21	C	17	B
			PM	New	25	C	48	D
63	Great America Parkway / Bunker Hill Lane	Santa Clara	AM	No	14	B	14	B
			PM	No	19	B	70	E
64	Great America Parkway / Old Glory Lane	Santa Clara	AM	Yes	87	F	54	D
			PM	Yes	>180	F	100	F
65	Great America Parkway / Patrick Henry Drive	Santa Clara	AM	Yes	24	C	46	D
			PM	Yes	119	F	>180	F
66	Great America Parkway / Mission College Boulevard	Santa Clara (CMP)	AM	Yes	75	E	145	F
			PM	Yes	111	F	179	F
67	Great America Parkway / US 101 NB Off Ramp	Santa Clara (CMP)	AM	No	19	B	54	D
			PM	No	15	B	11	B
68	Bowers Avenue / US 101 SB Off Ramp	Santa Clara (CMP)	AM	No	27	C	15	B
			PM	No	13	B	11	B
85	Lafayette St/Great America Way	Santa Clara	AM	No	47	D	33	C
			PM	No	39	D	38	D
86	Lafayette St/North Access Road	Santa Clara	AM	New	16	B	14	B
			PM	New	18	B	7	A
87	Lafayette St/ Jug Handle	Santa Clara	AM	New	32	C	13	B
			PM	New	30	C	22	C
88	Lafayette St/South Access Road	Santa Clara	AM	New	Not analyzed	Not analyzed	37	D
			PM	New			14	B
89[17]	Lafayette St/ Calle Del Mundo	Santa Clara	AM	Yes	>150*	F*	102	F
			PM	Yes	>150*	F*	15	B
90	Lafayette St/ Calle de Luna	Santa Clara	AM	Yes	78	E	25	C
			PM	Yes	23	C	60	E
114	Calle Del Sol / Calle De Luna	Santa Clara	AM	Yes	14	B	21	C
			PM	Yes	12	B	23	C

* 2016 EIR delay reported as average intersection delay for Side Street Stop Controlled Intersection (refer to EIR Table 3.3-22).

[17] The cumulative plus Project volumes under Scheme B in 2016 EIR would not warrant a signal at this intersection and therefore a traffic signal was not proposed in the 2016 EIR. The improvement to signalize the intersection of Lafayette St with Calle Del Mundo was identified in the Tasman East Specific Plan and Tasman East would fully fund this improvement. The analysis of intersection operations under Scheme C Without Lick Mill Connection Cumulative with Project conditions reflect the planned signalization.

7.2 Intersection Impact Conclusion

Several intersections remain at LOS 'E' and 'F' exceeding the significance threshold and there are a total number of eleven intersections with a LOS 'E' or 'F' under Scheme C similar to the number of intersections with LOS 'E' or 'F' under Scheme B evaluated by the 2016 EIR. There are also several intersections with reduced delays and improved LOS across the reduced study area for Scheme C under Cumulative with Project Conditions Without the Lick Mill Connection. Therefore, overall, it can be concluded that Scheme C does not substantially increase the severity of the significant impacts previously identified by the 2016 EIR.

8. Other Transportation Issues

This section summarizes the impact of Scheme C in comparison to the 2016 EIR for other transportation issues including:

- Truck circulation
- Freeway Segment Traffic Operations
- Transit Impacts
- Construction Impacts
- Game Day Analysis
- Impacts on pedestrian and bicycle facilities

8.1 Truck Circulation

Truck access to and from the Northeast Parcel is planned by the developer to be limited to the North Access Road connecting to Lafayette Street just south of Great America Way (refer to Figure 8.1). The South Access Road can be restricted for truck movements as part of the internal site road network design. In addition, it is proposed to restrict truck movements on roadways within the Tasman East Specific Plan Area (Calle De Luna, Calle Del Sol, Calle Del Mundo, and Lick Mill Extension North of Tasman) as also discussed in Section 4 and illustrated in Figure 8.1 below.

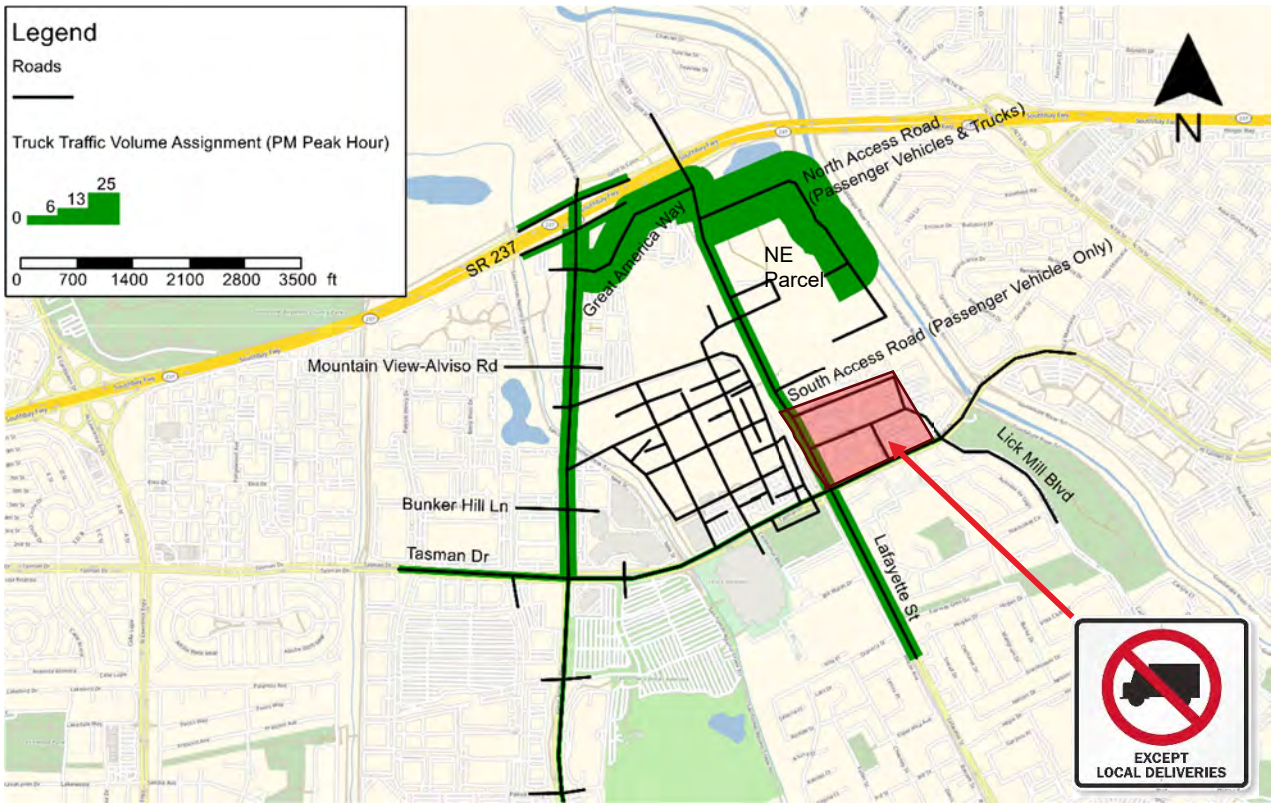


Figure 8.1: Truck Access to and from Northeast Parcel

With this restriction in place and considering the Project truck trip generation and distribution for the Northeast Parcel illustrated in Sections 3 and 4, Project truck traffic circulation and truck volumes for the AM and PM peak hour are predicted as depicted in figure 8.2 and 8.3. During peak hours truck traffic volumes are generally low. The highest volumes with up to 20 trucks per hour can be observed on Lafayette Street north of the access point to the Northeast Parcel, on Great America Way and Great America Parkway.

Based on the forecast truck circulation truck turns are anticipated at the following intersections within the study area:

- Lafayette Street / North Access Road (Intersection ID 86)
- Lafayette Street / Great America Way (Intersection ID 85)
- Great America Parkway / Great America Way (Intersection ID 59)
- Great America Parkway / Tasman Drive (Intersection ID 8)
- Great America Parkway / SR 237 on and off ramps (Intersection IDs 57 and 58)

Swept path analysis (refer to Appendix E) confirms that the external intersections can accommodate truck turns for the largest truck type (WB 67). Therefore, truck circulation required to serve the Northeast Parcel does not create any significant impacts.

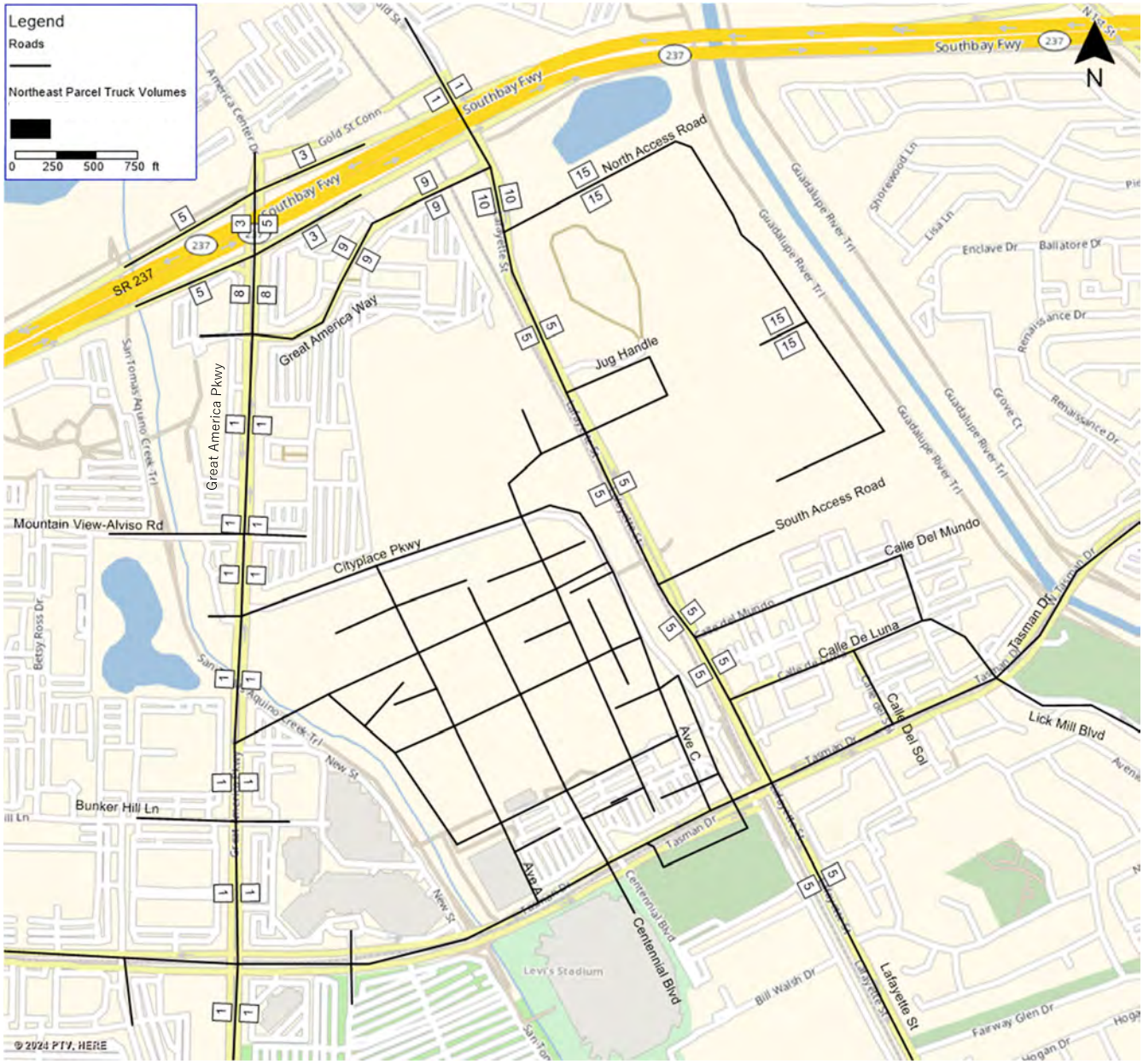


Figure 8.2: Northeast Parcel Project Trip Truck Circulation (AM Peak Hour)

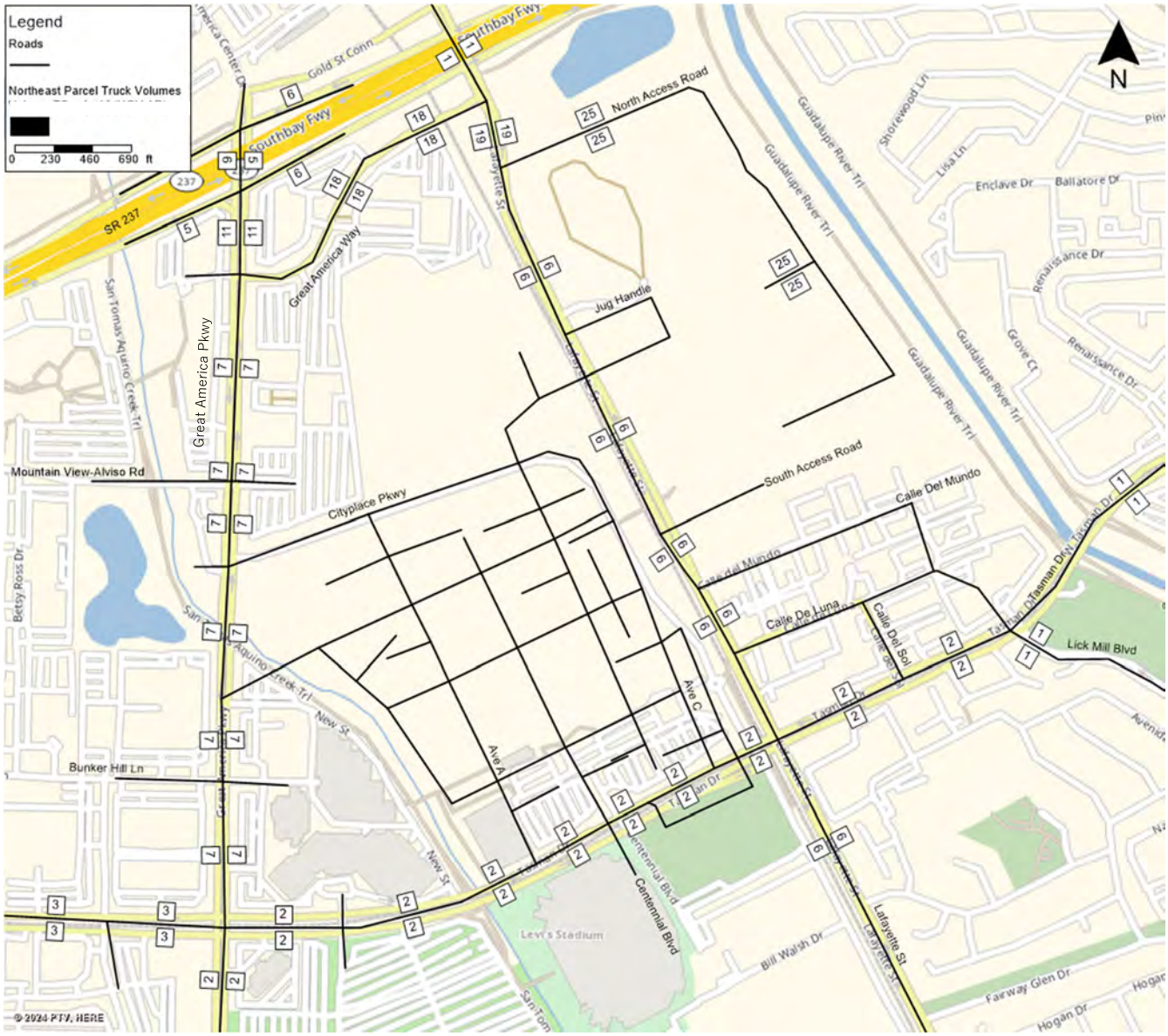


Figure 8.3: Northeast Parcel Project Trip Truck Circulation (PM Peak Hour)

8.2 Freeway Segment Traffic Operations

The 2016 EIR identified increases in traffic associated with the Project under Cumulative with Project conditions. The LOS indicated that there will be cumulative impacts on 236 freeway segments with the Project's contribution considerable on all of them. Mitigation measures (refer to TRA-1.1 and TRA-4.1 in 2016 EIR[18]) were identified to reduce these impacts. However, certain segments would still have significant cumulative impacts and the Project's contribution to cumulative freeway impacts would remain significant and unavoidable. Despite the reduction in total project trips (refer to Section 3), Scheme C Project trips would still contribute to a significant cumulative impact on these road segments.

There are few State Route 237 and US 101 freeway segments without a project impact in the 2016 EIR analysis as shown in Table 8.1 below. Due to the reduction in Project trips and because Scheme C changes would only potentially result in localized impacts a reduced study area is adopted for this analysis similar to the reduced study area identified for LOS analysis (refer to Section 2). Therefore, freeway segments beyond SR 237 and US 101 are not evaluated. Segments on US 101 without impacts in the 2016 EIR are due to no Project Contribution to Capacity[19]. With reduced Project trips and considering that US 101 is not affected by local redistribution of trips triggered by the Scheme C changes, these segments on US 101 would also be expected to have no Project contribution.

For segments on SR 237, 2016 EIR Existing Densities and LOS have been compared to the 2018 CMP report[20] to assess the potential for new Project impacts. This analysis identified one freeway segment as sub-standard with a LOS 'F' based on No Project traffic volume increases. This segment is therefore expected to have Cumulative with Project impacts, though as shown on Table 8.1, Scheme C would represent an overall reduction of trips for this segment as compared to the 2016 Project.

As shown in Table 8.1, other segments though deteriorated compared to 2016 EIR Existing conditions are at LOS 'E'[21] or better. With the reduced Project trips and limited contribution to these freeway segments as shown in Table 8.1 (refer to last column), it is not expected that Scheme C Project trips would substantially change the performance of these freeway segments. Equally, with the reduced Project trips the performance of freeway segments previously identified with a significant impact would not substantially change.

Considering that only one additional freeway segment is impacted, overall, it can be concluded that Scheme C does not substantially increase the severity of the significant impact to freeway segments identified by the 2016 EIR.

[18] https://www.santaclaraca.gov/Home/Components/BusinessDirectory/BusinessDirectory/135/3650

[19] refer to Table H-5 in Appendix H, 2016 EIR

[20] 2018 CMP Monitoring & Conformance Report.

[21] The CMP standard for freeway segments is LOS E.

Table 8.1 Evaluated Freeway Segments

Route	Peak Hour	2016 EIR Existing Density / LOS	2018 Traffic Volume	2018 Density / LOS	2016 EIR Project Trips	Relative Scheme C Project Trips	Scheme C Estimated Project Trips
SR 237 Eastbound							
El Camino Real to 85 Ramps	PM	28 / D	1,977	43 / D	392	44%	172
85 Ramps to Central Expressway	PM	21 / C	1,990	41 / D	250	44%	110
Central Expressway to Maude Avenue	PM	14 / B	1,939	35 / D	306	44%	135
Maude Avenue to 101 Ramps	PM	24 / C	1,939	55 / E	281	44%	124
McCarthy Boulevard to Interstate 880	AM	18 / B	1,921	34 / D	264	53%	140
SR 237 Westbound							
Interstate 880 to McCarthy Boulevard	PM	25 / C	1,672	58 / F	333	53%	176
Central Expressway to 85 Ramps	AM	20 / C	1,972	37 / D	99	44%	44
85 Ramps to El Camino Real	AM	33 / D	1,984	38 / D	94	44%	41

8.3 Construction Impacts

The 2016 EIR identified that construction traffic would result in short-term increases in traffic volumes that would cause significant impacts on intersection and freeway segment levels of service and temporary road closures requiring detours for vehicles accessing the Great America ACE/Capitol Corridor Station. Construction activities include those associated with site preparation and building construction. The land use program to be developed under Scheme C does not change these construction activities. Therefore, Scheme C does not cause any additional significant impacts which are not already identified and addressed by the 2016 EIR.

8.4 Transit Impacts

The 2016 EIR identified that the Project would generate public transit ridership that could use available transit capacity based on the evaluation of transit lines serving the site and their respective load factors with and without Project trips.

The overall reduction in trips for Scheme C (refer to Section 3) will result in a lower transit ridership forecast as presented in Table 8.2 since this Traffic Analysis is based on the same assumption adopted in the 2016 EIR. There is a five percent reduction in vehicle trips in the southern portion of the Project site within 0.5 mile (walking distance) of the Great America VTA light-rail station and the multimodal Great America station served by ACE commuter rail, Capitol Corridor commuter rail, and connecting ACE shuttle routes. Therefore, the Project would generate approximately 290 AM Peak hour and 360 PM Peak hour public transit riders reduced from the 530 (AM Peak) and 820 (PM Peak) riders forecast by the 2016 EIR.

Table 8.2 Transit Trips Generated by the Project

Transit Riders	AM Peak Hour			PM Peak Hour		
	Inbound	Outbound	Total	Inbound	Outbound	Total
2016 EIR	430	100	530	240	580	820
Scheme C	214	76	290	130	230	360
Delta	-50%	-24%	-45%	-46%	-60%	-56%

The frequency and therefore capacity provided by Capitol Corridor, ACE and Caltrain rail services during peak hours have not changed since 2016 (refer to Table 8.3). The annual ridership for the Capitol Corridor has decreased significantly from 1.56 million in 2016[22] to 0.9 million in 2023[23]. ACE had an annual ridership of 645,000[24] passengers for the financial year 23/24 which is also reduced significantly from the 2017/18 (note that 2016 data is not available) annual ridership of 1.36[25] million passengers. For Caltrain the average weekday ridership has decreased from 62,416[26] to about 23,500[27] in 2024.

Table 8.3 Rail Service Headways

Route	2016 EIR Existing Transit Services Analysis[28] Weekday Peak Headway (minutes)	2024 Transit Service Schedule Weekday Peak Headway (minutes)
Capital Corridor (Rail)	60	60
ACE (Rail)	60	60
Caltrain	30	30[29]

[22] Refer to Amtrak FY16 Ridership & Revenue report: https://media.amtrak.com/wp-content/uploads/2015/10/Amtrak-FY16-Ridership-and-Revenue-Fact-Sheet-4_17_17-mm-edits.pdf

[23] Refer Annual Performance Report: https://safe.rbi-umbrella.com/doc/docview/viewer/docNDE39FDE35F0E9df35a1ab883d5c37e1e39e45a7f9940a2321a2aaafec851789b5bf617cc7413

[24] Refer to FY24/25 Work Program and Budget: https://d2j5fyfnufxt9o.cloudfront.net/wp-content/uploads/20240624095354/SJRRC_WP24_25_FNL_SIGNED.pdf

[2525] Refer to FY18/19 Work Program and Budget: https://safe.rbi-umbrella.com/doc/docview/viewer/docNDE39FDE35F0E9a23e0eed9b26d3b8f3a9b0b105c10bc6eb84e42610160c8eeb25d357a8a2af7

[26] Refer to 2016 Annual Passenger Counts: https://www.caltrain.com/media/1895/download?inline

[27] Refer to FY2024 Annual Ridership Report: https://m365.cloud.microsoft/chat/?fromcode=cmc&redirectid=91ECA2E1E071488A97FB1C57BC000F21&auth=2

[28] Refer to 2016 EIR Transportation Section Table 3.3-10 Existing Transit Service in Focused Study Area

[29] Pre electrification frequency

Between 2016 and 2024, the average weekday VTA ridership experienced a notable decline following the Covid pandemic[30] with a decrease from about 140,000 to 87,000 (about 38% decrease) average weekday transit riders across the entire VTA system. To align the reduction in ridership and operational capacity, some VTA bus routes previously assumed in the 2016 EIR have been removed from service as illustrated in Table 8.4. This results in a reduction in peak hour seat capacity from about 1,934 to 1,726 seats (about 11% decrease) for VTA routes serving the site which is less than the reduction in ridership.

Since Project transit trips are forecast to be lower for Scheme C than Scheme B and the reduction of seat capacity is less than the reduction in no Project transit ridership, Scheme C does not result in any significant transit impact.

Table 8.4 VTA Seat Capacity Comparison

Route	2016 EIR Existing Transit Services Analysis Weekday Peak Headway (minutes)	Vehicle Seat Capacity[31]	Peak Hour Seat Capacity	2024 Transit Services Weekday Peak Headway (minutes)	Vehicle Seat Capacity[32]	Peak Hour Seat Capacity
VTA Orange and Green Line (Light Rail) – evaluated as line 902 in 2016 EIR	15	130 per 2 car service	1040	15	130 per 2 car service	1040
VTA 121 (Express Bus)	30	39	78	75	39	31
VTA 140 (Express Bus	45	39	52	No Service	NA	NA
VTA 321 (Limited Bus)	One per day	39	39[33]	No Service	NA	NA
VTA 330 (Limited Bus)	30	39	78	No Service	NA	NA
VTA 55 (Local Bus)	15-30	37	111	30	39	78
VTA 57 (Local Bus)	30	37	74	15	37	148
VTA 59 (Local Bus)	No Service	NA	NA	30	39	78
VTA 60 (Local Bus)	20	37	111	Does not serve site	NA	NA
ACE Gray Shuttle (Bus)	60	39	39	60	39	39

[30] Refer to VTA Transit Choices Report, 02/03/2016 (https://www.svtransitusers.org/wp/wp-content/uploads/2016/04/Jarrett-Walker-VTA-report-2016.pdf) and VTA Ridership Report for September 2024 (https://www.vta.gov/sites/default/files/2024-09/board_correspondence_0906.pdf)

[31] Refer to System-Wide Service Standards and Policies (OPS PL-0059, dated November 8, 2014)

[32] Refer to VTA Transit Service Guidelines 2023 (https://www.vta.org/sites/default/files/2023-06/Transit-Service-Guidelines-2023.pdf)

[33] Single daily service assumed to be operated during peak hour

Route	2016 EIR Existing Transit Services Analysis Weekday Peak Headway (minutes)	Vehicle Seat Capacity[31]	Peak Hour Seat Capacity	2024 Transit Services Weekday Peak Headway (minutes)	Vehicle Seat Capacity[32]	Peak Hour Seat Capacity
ACE Yellow Shuttle (Bus)	60	39	39	60	39	39
ACE Red Shuttle (Bus)	60	39	39	60	39	39
ACE Green Shuttle (Bus)	60	39	39	60	39	39
ACE Violet Shuttle (Bus)	60	39	39	60	39	39
ACE Purple Shuttle (Bus)	60	39	39	60	39	39
ACE Orange Shuttle (Bus)	60	39	39	60	39	39
ACE Brown Shuttle (Bus)	60	39	39	60	39	39
Total	**Peak Hour Seat Capacity: 1,934**			**Peak Hour Seat Capacity: 1,726**		

8.5 Game-Day Analysis

City Place Santa Clara is located near Levi's Stadium, a 68,500-seat special events center and home to the San Francisco 49ers football team, located on the south side of Tasman Drive just to the south of the Project site. Traffic patterns in the area change substantially before and after an event due to the number of people traveling to and from the stadium, the closure of Tasman Drive between Great America Parkway and Centennial Boulevard, and the closure of the San Tomas Aquino Creek Trail from Agnew Road to Tasman Drive.

A variety of events are held at Levi's Stadium each year: 10 pre-season and regular-season 49ers football games (typically on Sundays at 1:00 p.m., with one or two Monday/Thursday/Saturday night games), college football games (variety of days and times), concerts (mostly weekend evenings at 8:00 p.m.), and other events (WrestleMania, Monster Jam, etc., on weekend evenings). In total, approximately 20 to 25 events occur each year. The events that happen most frequently and that have the highest attendance are the Sunday football games (approximately eight per year). Therefore, the 2016 EIR assessed traffic conditions for a Sunday with a 49ers game considering the completion of the Project.

The general size, timing, and number of stadium events today and in the future is comparable to the assessment included in the 2016 EIR with a 49ers game on a Sunday still considered the event with the highest traffic demand.

The development program changes of Scheme C compared to Scheme B which was evaluated as part of the 2016 EIR results in a reduction in Sunday daily and total peak hour trips (refer to Table 8.5 below and calculation included in Appendix F). The increased residential program leads to a more

evenly balanced weekend trip generation for outbound and inbound trips. Therefore, the Game Day Analysis completed for the 2016 EIR is still valid with no new significant impacts.

Table 8.5 Trip Generation Game Day (Sunday) Analysis

Game Day	Daily	Peak Hour		
	Total	Inbound	Outbound	Total
2016 EIR	32,710	2770	1,640	4,410
Scheme C	21,572	1,656	1,563	3,219
Delta	-34%	-40%	-5%	-27%

8.6 Impacts on pedestrian and bicycle facilities

Pedestrian and bike infrastructure is planned to be improved significantly by the Project as presented within the 2016 EIR. The proposed improvements to support travel between buildings and from and to transit stops. (i.e. sidewalks on both sides of all internal streets, additional pedestrian connections) within City Center (Parcels 4 and 5) are not affected by the Scheme C program change.

The modification to the internal road network for the Northeast Parcel does not affect the general connectivity to transit[34]. Sidewalks are proposed along all internal streets for the Northeast Parcel to provide a safe pedestrian environment by segregating walking areas from streets and truck movements on these streets.

A bike and ped connection from the Northeast Parcel to Tasman East via Lick Mill Boulevard to support the connection from Tasman Drive to City Center will be included in the planning for the Northeast Parcel. A connection for pedestrians and bicyclists between the Northeast parcel, City Center, and Great America ACE station will also be provided. With these connections, the development plans for Scheme C comply with the Santa Clara General Plan.

[34] It needs to be noted that due to distance to VTA Light Rail and Great America ACE / Capitol Corridor transit stations the trip generation analysis does not assume any transit reduction for the Northeast Parcel as outlined in Section 3.

9. Travel Demand Management (TDM)

The Mitigation Monitoring & Reporting Program identifies mitigation TRA-1.1: Vehicle Trip Reduction with TDM that requires the project to implement a TDM plan that supports the reduction of project office traffic by 4% daily and 10% in the peak hours. For residential trips, the TDM plan will need to identify measures to reduce daily traffic by 2% and peak hour traffic by a minimum of 4%.

To meet these requirements, the 2016 EIR and subsequent DAP studies identified infrastructure, measures and strategies as part of the overall design program with the aim of reducing single occupancy vehicle trips. These measures and strategies are summarized in Table 9.1 and form the basis of the overall TDM plan. Infrastructure, measures and strategies specifically aimed at industrial employees have been added.

The City of Santa Clara has adopted a new Climate Action Plan 2022. The City of Santa Clara will need to determine whether the proposed new industrial use is subject to the VMT reduction requirements set in the new Climate Action Plan.

The project will be required to submit a TDM Plan subject to the City's approval prior to the issuance of a certificate of occupancy that demonstrates that the proposed TDM measures will achieve the adopted trip reduction targets.

Table 9.1: TDM Program Components

TDM Measure	Program Item	Description
Office TDM Program		
Transportation Management Association (TMA)	TDM Monitoring and Implementation	Organization that will coordinate and provide oversight of the implementation of TDM measures for City Place. The TMA will offer a baseline of TDM services (coordinated for overall benefit of reducing auto trips) and provide guidance / recommendations for individual employee / tenant programs. Maintain and update website and marketing program to disseminate information of TDM program
On-site Support Facilities	Pedestrian Infrastructure	Walking is encouraged within City Center through the incorporation of ample sidewalks and pedestrian cross-walks at intersections. Pedestrian connections are provided between the office program and the nearby Great America LRT Station and Great America Amtrak Station.
	Bicycle Infrastructure	The proposed roadways for City Center include on-street bike lanes with connections into the existing local bicycle network (Along Tasman Drive). Short-term and long-term bike parking will be provided and will be located at convenient locations near the office program (exact parking locations to be determined)
	Transit Infrastructure	Shuttle stop(s) will be provided within convenient walking access of the office program on Block 5A and other locations to be determined. Off-site transit infrastructure includes the nearby Great America LRT station and Great America Amtrak station, with convenient pedestrian access routes.
	Carpool	Preferential parking spaces located close to building entrances to encourage carpooling

TDM Measure	Program Item	Description
	Car Share Services	Provision of car sharing vehicles for use by office employees. Car sharing services provide office employees access to a car when needed (for off-site meetings, occasional lunch-time errands etc.), without the need for office employees driving their own vehicle to commute.
		Multi-passenger demand responsive ride services for local employees that are competitive with drive alone including transportation network/ride-sharing services such as Uber Pool, Lyft Line and Chariot on-demand and crowd-sourced bus services.
In-building Support Facilities	Pedestrian and Bicycle Services	The office building will include the provision of changing facilities, showers and short-term locker facilities to encourage commuting through active travel modes.
Residential TDM Program		
Transportation Management Association (TMA)	TDM Coordinator	TDM Coordinator for residents to help provide information related to commuting (to off-site locations), sign-up support for transit pass programs, car-share programs and 511 rideshare programs.
On-site Support Facilities	Pedestrian Infrastructure	Walking is encouraged for residents with ample sidewalks and pedestrian cross-walks at intersections, providing connections to nearby public transit facilities.
	Bicycle Infrastructure	The proposed roadways for City Center include on-street bike lanes with connections into the existing local bicycle network (Along Tasman Drive). Bike lanes will also connect to nearby recreational bike paths and trails.
	Transit Infrastructure	Provide in-building information for nearby public transit services, including schedules, maps to nearby transit-stops and stations
	Car Share Services	Provision of car sharing vehicles and car share membership information that provides residents access to vehicles, without the need to own a vehicle.
Industrial / warehouse TDM Program		
On-site Support Facilities	Pedestrian Infrastructure	Walking is encouraged within the Northeast Parcel through the incorporation of ample sidewalks and pedestrian crosswalks at intersections. Pedestrian connections are to be provided for walkable distances between warehouses / industrial facilities and the Lick Mill LRT Station.
	Bicycle Infrastructure	The proposed roadways for the Northeast Parcel should provide for protected bike lanes to avoid conflicts with heavy vehicles with connections into the existing local bicycle network (along Tasman Drive). Short-term and long-term bike parking will be provided and will be located at convenient locations near any warehouse facilities (exact parking locations to be determined).
	Transit Infrastructure	Shuttle stop(s) will be provided within convenient walking access of the warehouses / industrial facilities. Off-site transit infrastructure includes the nearby Lick Mill LRT station and Great America Amtrak station.
	Carpool	Preferential parking spaces located close to building entrances to encourage carpooling.
	Demand Responsive Transport	Multi-passenger demand responsive ride services and employee incentives for local employees that are competitive with drive alone including transportation network/ride-sharing services such as Uber Pool or Lyft Line. Provide on demand shuttles services scheduled for the start of / end of shift times in particular during night-times when public transport services are limited for larger warehouse facilities.

TDM Measure	Program Item	Description
In-building Support Facilities	Pedestrian and Bicycle Services	Warehouse buildings will include the provision of changing facilities, showers and short-term locker facilities to encourage commuting through active travel modes.

Monitoring of the TDM plan will be conducted in accordance with Section F, Monitoring and Reporting, of Mitigation Measure TRA-1.1 as defined by the 2016 EIR. This will include the following:

- Annual monitoring and reporting that includes: Description of TDM programs in operation over the previous year, results of driveway counts and survey findings.
- Traffic counts to collect daily and peak hour traffic volumes at City Place Driveways and parking entrances. Counts will be conducted during school time and collected over a 72-hour period (Tuesday, Wednesday and Thursdays).
- Provide total sum of entering and exiting traffic for the peak hours, adjusted to isolate office and residential parking. Traffic volumes will then be compared to TDM plan trip thresholds to determine TDM plan performance and if the vehicle trip thresholds are being met.
- Undertake an employee mode-share survey to determine mode-splits for employees, one year after building occupancy with ongoing surveys to be conducted to verify that vehicle trip thresholds are met.

Appendix A : Traffic Volume Tables

Scenario			Background No Project Traffic Volumes (Without Lick Mill Connection)		Project Trip Assignment under Background Conditions (Without Lick Mill Connection)		Background Plus Project Traffic Volumes (Without Lick Mill Connection)		Cumulative No Project Traffic Volumes (Without Lick Mill Connection)		Project Trip Assignment under Cumulative Conditions (Without Lick Mill Connection)		Cumulative Plus Project Traffic Volumes (Without Lick Mill Connection)	
Intersection ID	Street	Movement	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
8	Tasman Drive	EBL	27	27	66	357	93	384	134	701	26	214	160	915
8	Tasman Drive	EBR	33	52	0	0	33	52	33	52	0	0	33	52
8	Tasman Drive	EBT	137	635	532	46	669	681	153	833	808	268	961	1101
8	Great America Pkwy	NBL	326	84	0	0	326	84	326	84	0	0	326	84
8	Great America Pkwy	NBR	160	536	399	0	559	536	199	828	309	0	508	828
8	Great America Pkwy	NBT	594	618	993	629	1587	1247	594	1232	1024	661	1618	1893
8	Great America Pkwy	SBL	56	377	57	5	113	382	107	389	7	8	114	397
8	Great America Pkwy	SBR	47	50	71	312	118	362	635	120	22	361	657	481
8	Great America Pkwy	SBT	542	924	243	458	785	1382	1023	924	409	533	1432	1457
8	Tasman Drive	WBL	335	270	178	805	513	1075	678	365	29	812	707	1177
8	Tasman Drive	WBR	147	57	0	206	147	263	147	110	0	37	147	147
8	Tasman Drive	WBT	615	223	109	499	724	722	841	226	193	591	1034	817
9	Tasman Drive	EBL	77	58	0	0	77	58	77	58	0	0	77	58
9	Tasman Drive	EBR	5	1	0	0	5	1	96	87	0	0	96	87
9	Tasman Drive	EBT	370	1704	988	51	1358	1755	482	2273	1124	276	1606	2549
9	Convention Center	NBL	3	81	0	0	3	81	55	193	0	0	55	193
9	Convention Center	NBR	0	35	0	0	0	35	35	184	0	0	35	184
9	Convention Center	NBT	5	3	0	0	5	3	5	3	0	0	5	3
9	Convention Center	SBL	15	41	0	0	15	41	16	41	0	0	16	41
9	Convention Center	SBR	46	70	0	0	46	70	46	70	0	0	46	70
9	Convention Center	SBT	2	0	0	0	2	0	2	0	0	0	2	0
9	Tasman Drive	WBL	6	43	0	0	6	43	136	143	0	0	136	143
9	Tasman Drive	WBR	32	33	0	0	32	33	35	37	0	0	35	37
9	Tasman Drive	WBT	1263	521	286	1510	1549	2031	1870	692	222	1440	2092	2132
10	Tasman Drive	EBT	385	1780	988	51	1373	1831	499	2343	1124	276	1623	2619
10	Future Driveway	SBR	0	0	191	1096	191	1096	0	0	166	1020	166	1020
10	Tasman Drive	WBR	0	0	247	50	247	50	0	0	1	16	1	16
10	Tasman Drive	WBT	1301	597	96	414	1397	1011	1909	773	56	420	1965	1193
11	Tasman Dr	EBL	79	96	57	2	136	98	79	96	89	274	168	370
11	Tasman Dr	EBR	7	33	0	0	7	33	7	33	0	0	7	33
11	Tasman Dr	EBT	280	1552	931	48	1211	1600	305	2028	1035	2	1340	2030
11	Centennial Blvd	NBL	9	22	0	0	9	22	9	22	0	0	9	22
11	Centennial Blvd	NBR	4	26	0	0	4	26	4	26	0	0	4	26
11	Centennial Blvd	NBT	0	10	0	0	0	10	0	10	0	0	0	10
11	Centennial Blvd	SBL	30	115	257	901	287	1016	30	115	285	932	315	1047
11	Centennial Blvd	SBR	83	100	0	0	83	100	83	100	0	0	83	100
11	Centennial Blvd	SBT	0	1	0	0	0	1	0	1	0	0	0	1
11	Tasman Dr	WBL	6	21	0	0	6	21	6	21	0	0	6	21
11	Tasman Dr	WBR	89	75	355	45	444	120	89	75	485	30	574	105
11	Tasman Dr	WBT	1328	451	343	464	1671	915	1886	516	56	436	1942	952
12	Tasman Drive	EBT	385	1780	350	948	735	2728	444	2404	292	934	736	3338
12	Future Driveway	SBR	0	0	96	414	96	414	0	0	56	423	56	423
12	Tasman Drive	WBR	0	0	428	461	428	461	0	0	406	504	406	504
12	Tasman Drive	WBT	1301	597	602	95	1903	692	1984	763	485	50	2469	813
13	Tasman Dr	EBL	34	90	61	42	95	132	51	220	38	0	89	220
13	Tasman Dr	EBT	255	1146	289	906	544	2052	295	1637	253	934	548	2571
13	Calle del Sol	SBL	99	166	0	0	99	166	381	166	8	125	389	291
13	Calle del Sol	SBR	124	67	117	77	241	144	300	139	16	2	316	141
13	Tasman Dr	WBR	225	170	0	0	225	170	225	288	0	0	225	288
13	Tasman Dr	WBT	1137	427	913	479	2050	906	1644	522	875	552	2519	1074
14	Tasman Dr	EBL	21	4	32	41	53	45	31	40	0	121	31	161
14	Tasman Dr	EBR	66	388	96	346	162	734	211	749	107	374	318	1123
14	Tasman Dr	EBT	311	1088	161	519	472	1607	479	1088	154	564	633	1652
14	Lick Mill Blvd	NBL	287	62	323	175	610	237	357	281	308	164	665	445
14	Lick Mill Blvd	NBR	335	243	0	0	335	243	345	421	0	0	345	421
14	Lick Mill Blvd	NBT	28	4	48	22	76	26	64	114	46	21	110	135
14	Lick Mill Blvd	SBL	3	29	24	75	27	104	331	387	23	0	354	387
14	Lick Mill Blvd	SBR	7	15	55	42	62	57	39	37	56	139	95	176
14	Lick Mill Blvd	SBT	16	24	15	50	31	74	147	151	0	1	147	152
14	Tasman Dr	WBL	132	237	0	0	132	237	301	308	0	0	301	308
14	Tasman Dr	WBR	22	6	80	33	102	39	206	293	77	31	283	324
14	Tasman Dr	WBT	943	567	535	262	1478	829	1315	567	511	249	1826	816
57	Great America Pkwy	NBL	141	343	303	681	444	1024	141	521	290	645	431	1166
57	Great America Pkwy	NBT	227	658	0	0	227	658	255	1150	0	0	255	1150
57	Great America Pkwy	SBR	424	350	0	0	424	350	626	545	0	0	626	545
57	Great America Pkwy	SBT	99	162	0	0	99	162	99	162	0	0	99	162
57	SR 237 WB Ramp	WBL	833	942	823	504	1656	1446	926	985	788	477	1714	1462
57	SR 237 WB Ramp	WBR	145	327	0	0	145	327	145	327	0	0	145	327
57	SR 237 WB Ramp	WBT	68	2	0	0	68	2	68	2	0	0	68	2
58	SR 237 EB Ramps	EBL	164	264	0	0	164	264	179	293	0	0	179	293
58	SR 237 EB Ramps	EBR	441	271	992	340	1433	611	855	271	950	322	1805	593
58	SR 237 EB Ramps	EBT	0	11	0	0	0	11	0	11	0	0	0	11
58	Great America Pkwy	NBL	0	0	0	0	0	0	0	1	0	0	0	1
58	Great America Pkwy	NBR	338	728	249	1010	587	1738	508	1069	240	957	748	2026
58	Great America Pkwy	NBT	211	731	303	681	514	1412	211	1373	290	645	501	2018
58	Great America Pkwy	SBL	23	95	0	0	23	95	23	95	0	0	23	95
58	Great America Pkwy	SBT	907	1066	823	504	1730	1570	1008	1109	788	477	1796	1586
59	Stadium Tech Center Access Drive	EBL	2	60	0	0	2	60	2	60	0	0	2	60
59	Stadium Tech Center Access Drive	EBR	0	23	0	0	0	23	9	23	0	0	9	23
59	Stadium Tech Center Access Drive	EBT	3	82	0	0	3	82	3	82	0	0	3	82
59	Great America Pkwy	NBL	36	21	0	0	36	21	36	21	0	0	36	21

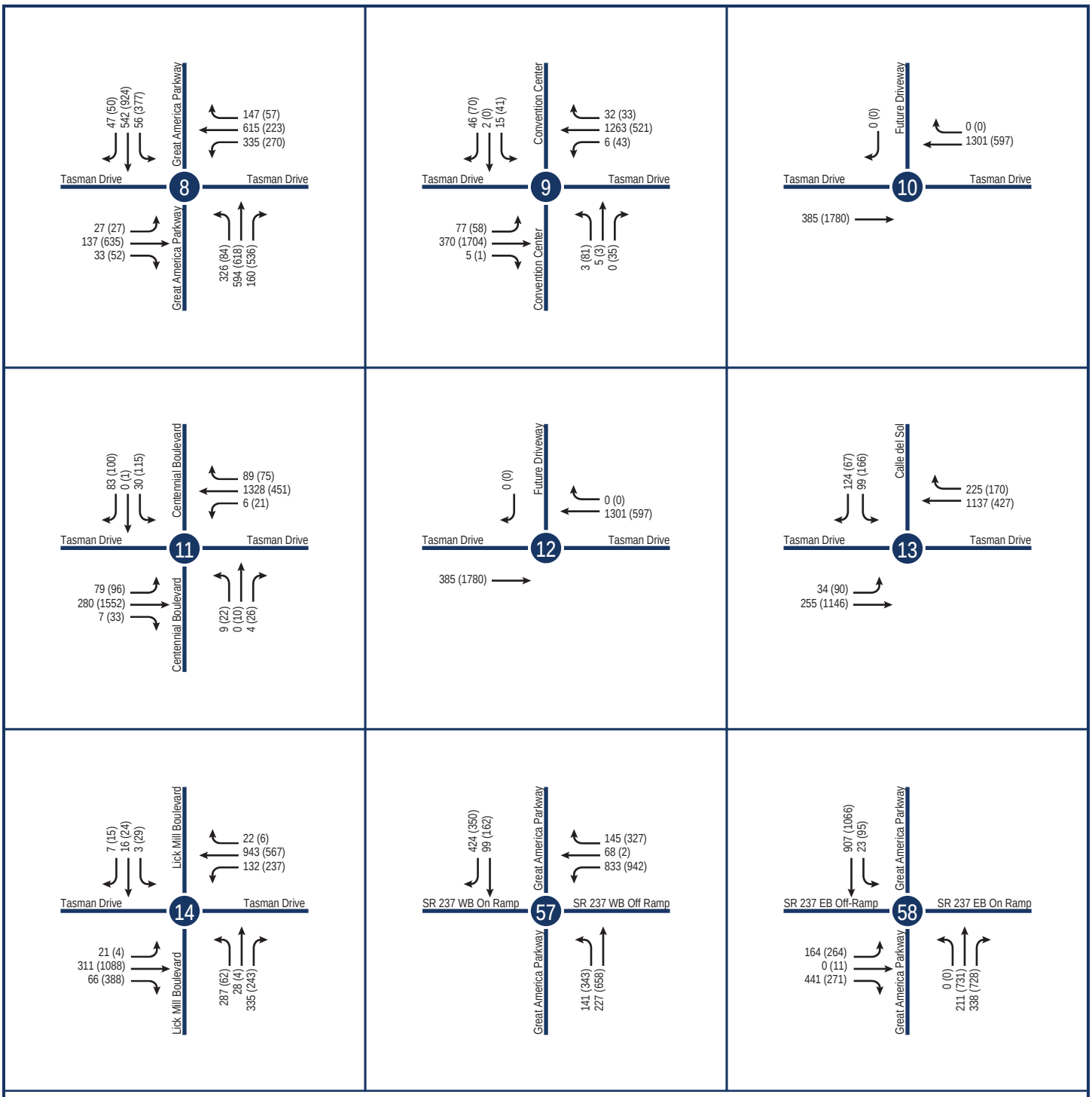
59	Great America Pkwy	NBR	63	460	17	83	80	543	80	1044	20	7	100	1051
59	Great America Pkwy	NBT	347	1010	544	1470	891	2480	501	2111	522	1357	1023	3468
59	Great America Pkwy	SBL	192	99	244	106	436	205	250	99	235	89	485	188
59	Great America Pkwy	SBR	68	7	0	0	68	7	68	7	0	0	68	7
59	Great America Pkwy	SBT	1054	554	1571	738	2625	1292	1510	554	1503	710	3013	1264
59	Great America Way	WBL	175	76	1	7	176	83	1077	129	1	7	1078	136
59	Great America Way	WBR	194	169	8	221	202	390	194	169	8	245	202	414
59	Great America Way	WBT	57	9	0	0	57	9	57	9	0	0	57	9
60	Old Mountain View-Alviso Rd	EBL	72	534	3	2	75	536	136	744	0	0	136	744
60	Old Mountain View-Alviso Rd	EBR	19	146	24	19	43	165	19	146	25	20	44	166
60	Old Mountain View-Alviso Rd	EBT	8	77	0	0	8	77	8	77	0	0	8	77
60	Great America Pkwy	NBL	129	48	9	42	138	90	129	48	7	40	136	88
60	Great America Pkwy	NBR	85	11	0	0	85	11	85	45	0	0	85	45
60	Great America Pkwy	NBT	363	918	558	1550	921	2468	470	2393	542	1364	1012	3757
60	Great America Pkwy	SBL	36	11	0	0	36	11	36	11	0	0	36	11
60	Great America Pkwy	SBR	423	81	0	0	423	81	571	134	0	0	571	134
60	Great America Pkwy	SBT	775	641	1572	745	2347	1386	1986	641	1504	717	3490	1358
60	Old Mountain View-Alviso Rd	WBL	10	67	0	0	10	67	36	67	0	0	36	67
60	Old Mountain View-Alviso Rd	WBR	5	49	0	0	5	49	5	49	0	0	5	49
60	Old Mountain View-Alviso Rd	WBT	4	10	0	0	4	10	4	10	0	0	4	10
61	Driveway	EBL	0	0	0	0	0	0	0	0	0	0	0	0
61	Driveway	EBR	0	0	0	0	0	0	0	0	0	0	0	0
61	Driveway	EBT	0	0	0	0	0	0	0	0	0	0	0	0
61	Great America Pkwy	NBL	0	0	0	0	0	0	0	0	0	0	0	0
61	Great America Pkwy	NBR	0	0	575	204	575	204	0	0	564	305	564	305
61	Great America Pkwy	NBT	734	946	438	556	1172	1502	734	2419	413	235	1147	2654
61	Great America Pkwy	SBL	0	0	733	470	733	470	0	0	729	456	729	456
61	Great America Pkwy	SBR	0	0	0	0	0	0	0	0	0	0	0	0
61	Great America Pkwy	SBT	1046	992	863	294	1909	1286	2270	992	800	281	3070	1273
61	City Place Pkwy	WBL	0	0	96	270	96	270	0	0	200	302	200	302
61	City Place Pkwy	WBR	0	0	130	1036	130	1036	0	0	136	1169	136	1169
61	City Place Pkwy	WBT	0	0	0	0	0	0	0	0	0	0	0	0
62	Great America Pkwy	NBR	0	0	518	741	518	741	0	0	520	592	520	592
62	Great America Pkwy	NBT	734	946	577	478	1311	1424	734	2419	564	311	1298	2730
62	Great America Pkwy	SBL	0	0	806	288	806	288	0	0	798	274	798	274
62	Great America Pkwy	SBT	1046	992	153	277	1199	1269	2270	992	202	310	2472	1302
62	Second St	WBL	0	0	229	557	229	557	0	0	246	617	246	617
62	Second St	WBR	0	0	436	282	436	282	0	0	413	228	413	228
63	Bunker Hill	EBL	14	236	36	33	50	269	14	590	34	26	48	616
63	Bunker Hill	EBR	17	235	0	0	17	235	96	235	0	4	96	239
63	Bunker Hill	EBT	7	19	0	0	7	19	8	21	0	0	8	21
63	Great America Pkwy	NBL	112	22	0	6	112	28	172	177	0	34	172	211
63	Great America Pkwy	NBR	169	40	0	0	169	40	169	114	0	0	169	114
63	Great America Pkwy	NBT	562	651	1059	1186	1621	1837	562	1759	1051	877	1613	2636
63	Great America Pkwy	SBL	107	32	0	0	107	32	107	32	0	0	107	32
63	Great America Pkwy	SBR	135	30	10	59	145	89	374	30	9	29	383	59
63	Great America Pkwy	SBT	576	759	372	775	948	1534	1580	759	438	898	2018	1657
63	Bunker Hill	WBL	33	174	0	0	33	174	69	174	0	0	69	174
63	Bunker Hill	WBR	40	71	0	0	40	71	40	79	0	0	40	79
63	Bunker Hill	WBT	11	21	0	0	11	21	11	21	0	0	11	21
64	Old Glory Ln	EBL	0	45	0	0	0	45	273	561	0	64	273	625
64	Old Glory Ln	EBR	5	101	0	0	5	101	346	736	0	0	346	736
64	Old Glory Ln	EBT	0	0	0	0	0	0	33	35	0	0	33	35
64	Great America Pkwy	NBL	22	13	0	0	22	13	727	387	0	0	727	387
64	Great America Pkwy	NBR	2	0	0	0	2	0	2	0	0	0	2	0
64	Great America Pkwy	NBT	1127	1171	1392	629	2519	1800	1127	1437	1333	597	2460	2034
64	Great America Pkwy	SBL	22	8	0	0	22	8	146	43	0	0	146	43
64	Great America Pkwy	SBR	16	4	0	0	16	4	415	406	36	146	451	552
64	Great America Pkwy	SBT	835	1224	421	1263	1256	2487	1141	1224	402	1198	1543	2422
64	Old Glory Ln	WBL	2	2	0	0	2	2	2	2	0	0	2	2
64	Old Glory Ln	WBR	2	2	0	0	2	2	19	125	0	0	19	125
64	Old Glory Ln	WBT	0	0	0	0	0	0	21	56	0	0	21	56
65	Patrick Henry Dr	EBL	4	47	0	0	4	47	4	47	0	1	4	48
65	Patrick Henry Dr	EBR	110	609	0	0	110	609	1038	1764	0	0	1038	1764
65	Patrick Henry Dr	EBT	3	4	0	0	3	4	28	10	0	0	28	10
65	Great America Pkwy	NBL	373	107	0	0	373	107	1167	1059	0	0	1167	1059
65	Great America Pkwy	NBR	76	21	0	0	76	21	76	44	0	0	76	44
65	Great America Pkwy	NBT	1164	1246	1392	629	2556	1875	1555	1811	1333	596	2888	2407
65	Great America Pkwy	SBL	29	9	0	0	29	9	156	9	0	0	156	9
65	Great America Pkwy	SBR	21	8	0	0	21	8	21	8	0	1	21	9
65	Great America Pkwy	SBT	763	1484	421	1263	1184	2747	1334	1484	402	1197	1736	2681
65	Patrick Henry Dr	WBL	13	209	0	0	13	209	27	224	0	0	27	224
65	Patrick Henry Dr	WBR	11	44	0	0	11	44	11	169	0	0	11	169
65	Patrick Henry Dr	WBT	5	10	0	0	5	10	14	32	0	0	14	32
66	Mission College Blvd	EBL	119	170	186	112	305	282	286	299	180	106	466	405
66	Mission College Blvd	EBR	103	100	0	0	103	100	103	100	0	0	103	100
66	Mission College Blvd	EBT	89	459	0	0	89	459	515	459	0	0	515	459
66	Great America Pkwy	NBL	470	271	0	0	470	271	470	271	0	0	470	271
66	Great America Pkwy	NBR	353	377	0	0	353	377	353	377	0	0	353	377
66	Great America Pkwy	NBT	1152	1002	1036	437	2188	1439	2029	2096	990	416	3019	2512
66	Great America Pkwy	SBL	142	368	52	159	194	527	656	378	49	151	705	529
66	Great America Pkwy	SBR	120	142	56	225	176	367	174	399	55	212	229	611
66	Great America Pkwy	SBT	678	1625	313	879	991	2504	1621	2511	298	834	1919	3345
66	Mission College Blvd	WBL	468	445	0	0	468	445	958	1512	0	0	958	1512
66	Mission College Blvd	WBR	300	146	170	80	470	226	434	465	163	74	597	539
66	Mission College Blvd	WBT	271	125	0	0	271	125	271	523	0	0	271	523
67	Great America Pkwy	NBR	0	0	0	0	0	0	194	298	0	0	194	298
67	Great America Pkwy	NBT	1437	1304	693	341	2130	1645	2561	2174	662	324	3223	2498
67	Great America Pkwy	SBR	0	0	0	0	0	0	560	1008	0	0	560	1008
67	Great America Pkwy	SBT	931	1916	311	793	1242	2709	2021	2980	296	752	2317	3732

67	US 101 NB Ramp	WBL	523	367	0	0	523	367	573	367	0	0	573	367
67	US 101 NB Ramp	WBR	1020	573	343	96	1363	669	1852	1043	328	92	2180	1135
68	US 101 SB Ramp	EBL	569	253	10	44	579	297	774	425	10	42	784	467
68	US 101 SB Ramp	EBR	485	196	0	0	485	196	558	365	0	0	558	365
68	Great America Pkwy	NBL	0	0	0	0	0	0	0	0	0	0	0	0
68	Great America Pkwy	NBR	248	789	0	0	248	789	248	789	0	0	248	789
68	Great America Pkwy	NBT	1025	1310	683	297	1708	1607	1987	1960	652	282	2639	2242
68	Great America Pkwy	SBR	260	621	104	193	364	814	677	1303	98	184	775	1487
68	Great America Pkwy	SBT	1174	1689	207	600	1381	2289	1464	1966	198	568	1662	2534
85	Great America Way	EBL	3	59	12	0	15	59	3	276	19	0	22	276
85	Great America Way	EBR	72	454	249	189	321	643	260	949	236	96	496	1045
85	Lafayette St	NBL	312	68	9	229	321	297	712	143	9	252	721	395
85	Lafayette St	NBT	602	189	13	51	615	240	824	471	4	47	828	518
85	Lafayette St	SBR	23	9	0	0	23	9	568	15	0	0	568	15
85	Lafayette St	SBT	161	496	79	25	240	521	164	503	76	25	240	528
86	Lafayette St	NBR	0	0	5	6	5	6	0	0	7	6	7	6
86	Lafayette St	NBT	916	315	9	120	925	435	1540	676	0	77	1540	753
86	Lafayette St	SBL	0	0	129	19	129	19	0	0	185	19	185	19
86	Lafayette St	SBT	232	950	198	195	430	1145	427	1453	127	102	554	1555
86	North Access Road	WBL	0	0	5	8	5	8	0	0	5	9	5	9
86	North Access Road	WBR	0	0	13	160	13	160	0	0	13	222	13	222
87	Lafayette St	NBR	0	0	1011	755	1011	755	0	0	1078	733	1078	733
87	Lafayette St	NBT	916	315	5	82	921	397	1537	676	5	6	1542	682
87	Lafayette St	SBL	0	0	68	28	68	28	0	0	66	24	66	24
87	Lafayette St	SBT	232	950	135	174	367	1124	427	1451	66	87	493	1538
87	Jug Handle	WBL	0	0	480	1152	480	1152	0	0	549	1153	549	1153
87	Jug Handle	WBR	0	0	9	44	9	44	0	0	2	77	2	77
88	Lafayette St	NBR	0	0	377	176	377	176	0	0	272	123	272	123
88	Lafayette St	NBT	916	315	866	494	1782	809	1537	676	923	434	2460	1110
88	Lafayette St	SBL	0	0	301	171	301	171	0	0	348	221	348	221
88	Lafayette St	SBT	232	950	315	1155	547	2105	427	1451	266	1019	693	2470
88	South Access Road	WBL	0	0	86	303	86	303	0	0	75	280	75	280
88	South Access Road	WBR	0	0	150	343	150	343	0	0	160	305	160	305
89	Lafayette St	NBR	10	7	0	4	10	11	50	108	0	81	50	189
89	Lafayette St	NBT	1011	293	993	554	2004	847	1283	380	990	498	2273	878
89	Lafayette St	SBL	25	9	83	252	108	261	216	358	5	9	221	367
89	Lafayette St	SBT	196	1102	318	1206	514	2308	199	1255	336	1290	535	2545
89	Calle Del Mundo	WBL	3	12	0	2	3	14	115	98	0	0	115	98
89	Calle Del Mundo	WBR	7	12	250	116	257	128	357	285	206	59	563	344
90	Lafayette St	NBR	257	165	117	77	374	242	316	520	16	2	332	522
90	Lafayette St	NBT	882	262	932	537	1814	799	882	448	990	579	1872	1027
90	Lafayette St	SBL	39	166	0	0	39	166	39	217	31	125	70	342
90	Lafayette St	SBT	208	965	318	1208	526	2173	378	1151	305	1165	683	2316
90	Calle de Luna	WBL	91	365	0	21	91	386	486	658	0	0	486	658
90	Calle de Luna	WBR	111	52	61	21	172	73	458	55	0	0	458	55
114	Calle de Luna	EBL	0	0	0	0	0	0	1	3	0	0	1	3
114	Calle De Luna	EBR	265	320	117	77	382	397	265	320	24	127	289	447
114	Calle De Luna	EBT	19	5	0	0	19	5	139	306	23	0	162	306
114	Calle Del Sol	NBL	201	371	61	42	262	413	405	457	0	0	405	457
114	Calle Del Sol	NBR	21	7	0	0	21	7	21	9	38	0	59	9
114	Calle Del Sol	NBT	0	0	0	0	0	0	91	119	0	0	91	119
114	Driveway	SBL	0	0	0	0	0	0	88	146	0	0	88	146
114	Driveway	SBR	0	0	0	0	0	0	1	3	0	0	1	3
114	Driveway	SBT	0	0	0	0	0	0	95	126	0	0	95	126
114	Calle De Luna	WBL	14	20	0	0	14	20	2	0	0	0	2	0
114	Calle De Luna	WBR	0	0	0	0	0	0	94	83	0	0	94	83
114	Calle De Luna	WBT	6	29	0	0	6	29	282	187	0	0	282	187

Scenario			Cumulative No Project Traffic Volumes (With Lick Mill Connection)		Project Trip Assignment under Cumulative Conditions (With Lick Mill Connection)		Cumulative Plus Project Traffic Volumes (With Lick Mill Connection)		Cumulative No Project Traffic Volumes (Without Lick Mill Connection minus With Lick Mill Connection)		Project Trip Assignment under Cumulative Conditions (Without Lick Mill Connection minus With Lick Mill Connection)		Cumulative Plus Project Traffic Volumes (Without Lick Mill Connection minus With Lick Mill Connection)	
Intersection ID	Street	Movement	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
8	Tasman Drive	EBL	134	701	19	209	153	910	0	0	7	5	7	5
8	Tasman Drive	EBR	33	52	0	0	33	52	0	0	0	0	0	0
8	Tasman Drive	EBT	153	833	815	273	968	1106	0	0	-7	-5	-7	-5
8	Great America Pkwy	NBL	326	84	0	0	326	84	0	0	0	0	0	0
8	Great America Pkwy	NBR	199	878	362	0	561	878	0	-50	-54	0	-54	-50
8	Great America Pkwy	NBT	594	1332	971	660	1565	1992	0	-100	54	0	54	-100
8	Great America Pkwy	SBL	107	339	3	8	110	347	0	50	4	0	4	50
8	Great America Pkwy	SBR	635	120	0	339	635	459	0	0	22	22	22	22
8	Great America Pkwy	SBT	943	874	411	462	1354	1336	80	50	-2	70	78	120
8	Tasman Drive	WBL	678	365	27	868	705	1233	0	0	2	-56	2	-56
8	Tasman Drive	WBR	147	110	0	62	147	172	0	0	0	-25	0	-25
8	Tasman Drive	WBT	941	226	215	626	1156	852	-100	0	-22	-36	-122	-36
9	Tasman Drive	EBL	77	58	0	0	77	58	0	0	0	0	0	0
9	Tasman Drive	EBR	96	87	0	0	96	87	0	0	0	0	0	0
11	Tasman Dr	EBL	29	96	84	277	113	373	50	0	5	-3	55	-3
11	Tasman Dr	EBR	7	33	0	0	7	33	0	0	0	0	0	0
11	Tasman Dr	EBT	354	2078	1096	4	1450	2082	-49	-50	-62	-2	-111	-52
11	Centennial Blvd	NBL	9	22	0	0	9	22	0	0	0	0	0	0
11	Centennial Blvd	NBR	4	26	0	0	4	26	0	0	0	0	0	0
11	Centennial Blvd	NBT	0	10	0	0	0	10	0	0	0	0	0	0
11	Centennial Blvd	SBL	30	115	247	819	277	934	0	0	38	113	38	113
11	Centennial Blvd	SBR	83	100	0	0	83	100	0	0	0	0	0	0
11	Centennial Blvd	SBT	0	1	0	0	0	1	0	0	0	0	0	0
11	Tasman Dr	WBL	6	21	0	0	6	21	0	0	0	0	0	0
11	Tasman Dr	WBR	89	75	438	20	527	95	0	0	46	10	46	10
11	Tasman Dr	WBT	1986	516	81	508	2067	1024	-100	0	-25	-72	-125	-72
13	Tasman Dr	EBL	51	270	98	0	149	270	0	-50	-60	0	-60	-50
13	Tasman Dr	EBT	344	1637	434	823	778	2460	-49	0	-181	111	-230	111
13	Calle del Sol	SBL	481	166	14	0	495	166	-100	0	-6	125	-106	125
13	Calle del Sol	SBR	400	229	0	72	400	301	-100	-90	16	-70	-84	-160
13	Tasman Dr	WBR	225	513	0	0	225	513	0	-225	0	0	0	-225
13	Tasman Dr	WBT	1594	522	860	603	2454	1125	50	0	15	-51	65	-51
14	Tasman Dr	EBL	80	40	187	23	267	63	-49	0	-187	98	-236	98
14	Tasman Dr	EBR	211	749	107	307	318	1056	0	0	0	67	0	67
14	Tasman Dr	EBT	479	1088	154	493	633	1581	0	0	0	71	0	71
14	Lick Mill Blvd	NBL	307	431	308	152	615	583	50	-150	0	12	50	-138
14	Lick Mill Blvd	NBR	275	171	0	0	275	171	70	250	0	0	70	250
14	Lick Mill Blvd	NBT	266	114	46	33	312	147	-202	0	0	-12	-202	-12
14	Lick Mill Blvd	SBL	281	436	23	71	304	507	50	-49	0	-71	50	-120
14	Lick Mill Blvd	SBR	39	111	41	202	80	313	0	-74	15	-63	15	-137
14	Lick Mill Blvd	SBT	147	195	0	68	147	263	0	-44	0	-67	0	-111
14	Tasman Dr	WBL	181	258	0	0	181	258	120	50	0	0	120	50
14	Tasman Dr	WBR	354	293	77	31	431	324	-148	0	0	0	-148	0
14	Tasman Dr	WBT	1315	567	511	249	1826	816	0	0	0	0	0	0
59	Stadium Tech Center Access Drive	EBL	2	60	0	0	2	60	0	0	0	0	0	0
59	Stadium Tech Center Access Drive	EBR	9	23	0	0	9	23	0	0	0	0	0	0
59	Stadium Tech Center Access Drive	EBT	3	82	0	0	3	82	0	0	0	0	0	0
59	Great America Pkwy	NBL	36	21	0	0	36	21	0	0	0	0	0	0
59	Great America Pkwy	NBR	80	1294	20	7	100	1301	0	-250	0	0	0	-250
59	Great America Pkwy	NBT	471	2061	522	1366	993	3427	30	50	0	-9	30	41
59	Great America Pkwy	SBL	250	189	235	98	485	287	0	-90	0	-8	0	-98
59	Great America Pkwy	SBR	68	7	0	0	68	7	0	0	0	0	0	0
59	Great America Pkwy	SBT	1510	504	1503	701	3013	1205	0	50	0	8	0	58
59	Great America Way	WBL	1377	129	1	12	1378	141	-300	0	0	-5	-300	-5
59	Great America Way	WBR	294	69	8	236	302	305	-100	100	0	9	-100	109
59	Great America Way	WBT	57	9	0	0	57	9	0	0	0	0	0	0
60	Old Mountain View-Alviso Rd	EBL	206	794	0	0	206	794	-70	-50	0	0	-70	-50
60	Old Mountain View-Alviso Rd	EBR	4	146	25	20	29	166	15	0	0	0	15	0
60	Old Mountain View-Alviso Rd	EBT	8	77	0	0	8	77	0	0	0	0	0	0
60	Great America Pkwy	NBL	129	48	7	35	136	83	0	0	0	5	0	5
60	Great America Pkwy	NBR	85	45	0	0	85	45	0	0	0	0	0	0
60	Great America Pkwy	NBT	370	2543	542	1373	912	3916	100	-150	0	-9	100	-159
60	Great America Pkwy	SBL	36	11	0	0	36	11	0	0	0	0	0	0
60	Great America Pkwy	SBR	671	134	0	5	671	139	-100	0	0	-5	-100	-5
60	Great America Pkwy	SBT	2186	591	1504	708	3690	1299	-200	50	0	8	-200	58
60	Old Mountain View-Alviso Rd	WBL	51	67	0	0	51	67	-15	0	0	0	-15	0
60	Old Mountain View-Alviso Rd	WBR	5	49	0	0	5	49	0	0	0	0	0	0
60	Old Mountain View-Alviso Rd	WBT	4	10	0	0	4	10	0	0	0	0	0	0
61	Driveway	EBL	0	0	0	0	0	0	0	0	0	0	0	0
61	Driveway	EBR	0	0	0	0	0	0	0	0	0	0	0	0
61	Driveway	EBT	0	0	0	0	0	0	0	0	0	0	0	0
61	Great America Pkwy	NBL	0	0	0	0	0	0	0	0	0	0	0	0
61	Great America Pkwy	NBR	0	0	420	296	420	296	0	0	144	9	144	9
61	Great America Pkwy	NBT	634	2519	394	241	1028	2760	100	-100	19	-7	119	-107
61	Great America Pkwy	SBL	120	0	729	451	849	451	-120	0	1	5	-119	5
61	Great America Pkwy	SBR	0	0	0	0	0	0	0	0	0	0	0	0
61	Great America Pkwy	SBT	2350	942	800	277	3150	1219	-80	50	0	4	-80	54
61	City Place Pkwy	WBL	0	0	189	164	189	164	0	0	12	138	12	138
61	City Place Pkwy	WBR	0	50	155	1167	155	1217	0	-50	-19	3	-19	-47
61	City Place Pkwy	WBT	0	0	0	0	0	0	0	0	0	0	0	0
62	Great America Pkwy	NBR	0	50	604	596	604	646	0	-50	-84	-4	-84	-54
62	Great America Pkwy	NBT	634	2519	420	302	1054	2821	100	-100	144	9	244	-91
62	Great America Pkwy	SBL	0	0	796	269	796	269	0	0	2	4	2	4
62	Great America Pkwy	SBT	2350	942	192	172	2542	1114	-80	50	9	137	-71	187
62	Second St	WBL	0	0	231	637	231	637	0	0	14	-20	14	-20
62	Second St	WBR	0	0	393	236	393	236	0	0	20	-7	20	-7

85	Great America Way	EBL	3	226	19	0	22	226	0	50	0	0	0	50
85	Great America Way	EBR	260	1339	236	105	496	1444	0	-390	0	-8	0	-398
85	Lafayette St	NBL	1112	43	9	248	1121	291	-400	100	0	4	-400	104
85	Lafayette St	NBT	855	771	4	47	859	818	-31	-300	0	0	-31	-300
85	Lafayette St	SBR	568	15	0	0	568	15	0	0	0	0	0	0
85	Lafayette St	SBT	214	593	76	25	290	618	-50	-90	0	0	-50	-90
86	Lafayette St	NBR	0	0	47	248	47	248	0	0	-40	-242	-40	-242
86	Lafayette St	NBT	1160	826	0	68	1160	894	380	-150	0	9	380	-141
86	Lafayette St	SBL	0	830	247	109	247	939	0	-830	-62	-90	-62	-920
86	Lafayette St	SBT	477	1103	65	21	542	1124	-50	350	62	81	12	431
86	Future Driveway to NE Parcel Nort	WBL	0	0	137	166	137	166	0	0	-132	-157	-132	-157
86	Future Driveway to NE Parcel Nort	WBR	811	50	13	227	824	277	-811	-50	0	-5	-811	-55
87	Lafayette St	NBR	0	0	971	450	971	450	0	0	107	283	107	283
87	Lafayette St	NBT	1027	826	5	6	1032	832	510	-150	0	0	510	-150
87	Lafayette St	SBL	0	150	197	180	197	330	0	-150	-131	-157	-131	-307
87	Lafayette St	SBT	477	951	5	7	482	958	-50	500	61	81	11	581
87	Jug Handle	WBL	0	0	261	1013	261	1013	0	0	288	140	288	140
87	Jug Handle	WBR	40	0	42	310	82	310	-40	0	-40	-233	-80	-233
88	Lafayette St	NBR	20	25	0	0	20	25	-20	-25	272	123	252	98
88	Lafayette St	NBT	897	801	976	456	1873	1257	640	-125	-53	-22	587	-147
88	Lafayette St	SBL	25	220	0	0	25	220	-25	-220	348	221	323	1
88	Lafayette St	SBT	452	731	266	1020	718	1751	-25	720	0	-1	-25	719
88	Future Driveway to NE Parcel Sout	WBL	25	20	0	0	25	20	-25	-20	75	280	50	260
88	Future Driveway to NE Parcel Sout	WBR	120	25	0	0	120	25	-120	-25	160	305	40	280
89	Lafayette St	NBR	50	208	0	64	50	272	0	-100	0	17	0	-83
89	Lafayette St	NBT	1013	530	875	445	1888	975	270	-150	115	53	385	-97
89	Lafayette St	SBL	216	8	0	0	216	8	0	350	5	8	5	358
89	Lafayette St	SBT	249	905	266	1020	515	1925	-50	350	70	270	20	620
89	Calle Del Mundo	WBL	215	198	53	145	268	343	-100	-100	-53	-145	-153	-245
89	Calle Del Mundo	WBR	7	285	102	11	109	296	350	0	104	48	454	48
90	Lafayette St	NBR	316	460	131	72	447	532	0	60	-115	-70	-115	-10
90	Lafayette St	NBT	932	448	875	509	1807	957	-50	0	115	70	65	70
90	Lafayette St	SBL	139	17	14	0	153	17	-100	200	17	125	-83	325
90	Lafayette St	SBT	428	1101	305	1165	733	2266	-50	50	0	0	-50	50
90	Calle de Luna	WBL	486	658	0	0	486	658	0	0	0	0	0	0
90	Calle de Luna	WBR	138	305	0	0	138	305	320	-250	0	0	320	-250
114	Calle de Luna	EBL	1	3	0	0	1	3	0	0	0	0	0	0
114	Calle De Luna	EBR	365	260	14	72	379	332	-100	60	10	55	-90	115
114	Calle De Luna	EBT	139	56	131	0	270	56	0	250	-108	0	-108	250
114	Calle Del Sol	NBL	205	707	0	0	205	707	200	-250	0	0	200	-250
114	Calle Del Sol	NBR	171	159	98	0	269	159	-150	-150	-60	0	-210	-150
114	Calle Del Sol	NBT	141	119	0	0	141	119	-50	0	0	0	-50	0
114	Driveway	SBL	88	146	0	0	88	146	0	0	0	0	0	0
114	Driveway	SBR	1	3	0	0	1	3	0	0	0	0	0	0
114	Driveway	SBT	95	126	0	0	95	126	0	0	0	0	0	0
114	Calle De Luna	WBL	2	150	0	0	2	150	0	-150	0	0	0	-150
114	Calle De Luna	WBR	94	83	0	0	94	83	0	0	0	0	0	0
114	Calle De Luna	WBT	237	187	0	0	237	187	45	0	0	0	45	0

Appendix B : Turning Movement Figures



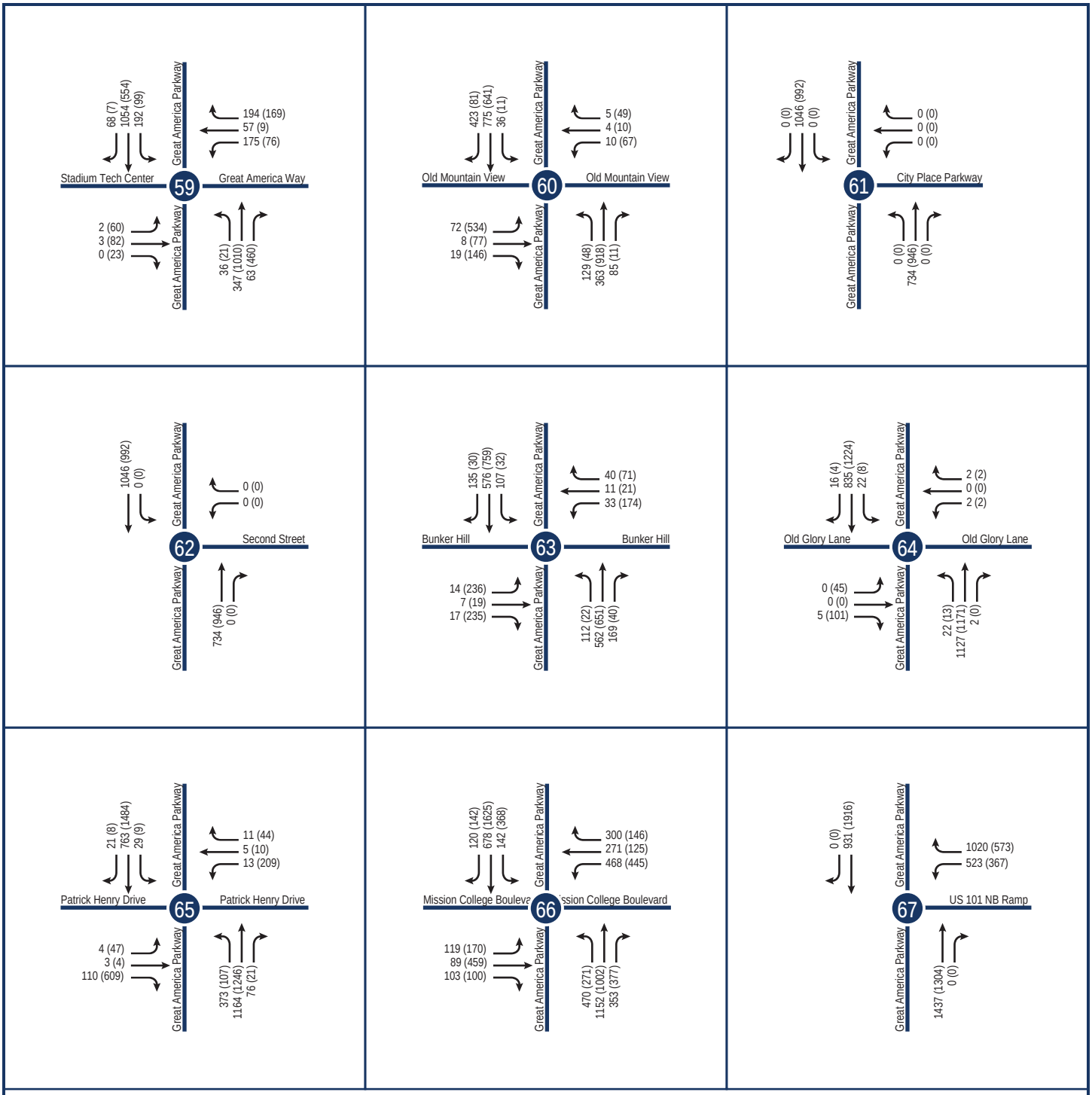
Legend

AM Peak Hour (PM Peak Hour)

Background No Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



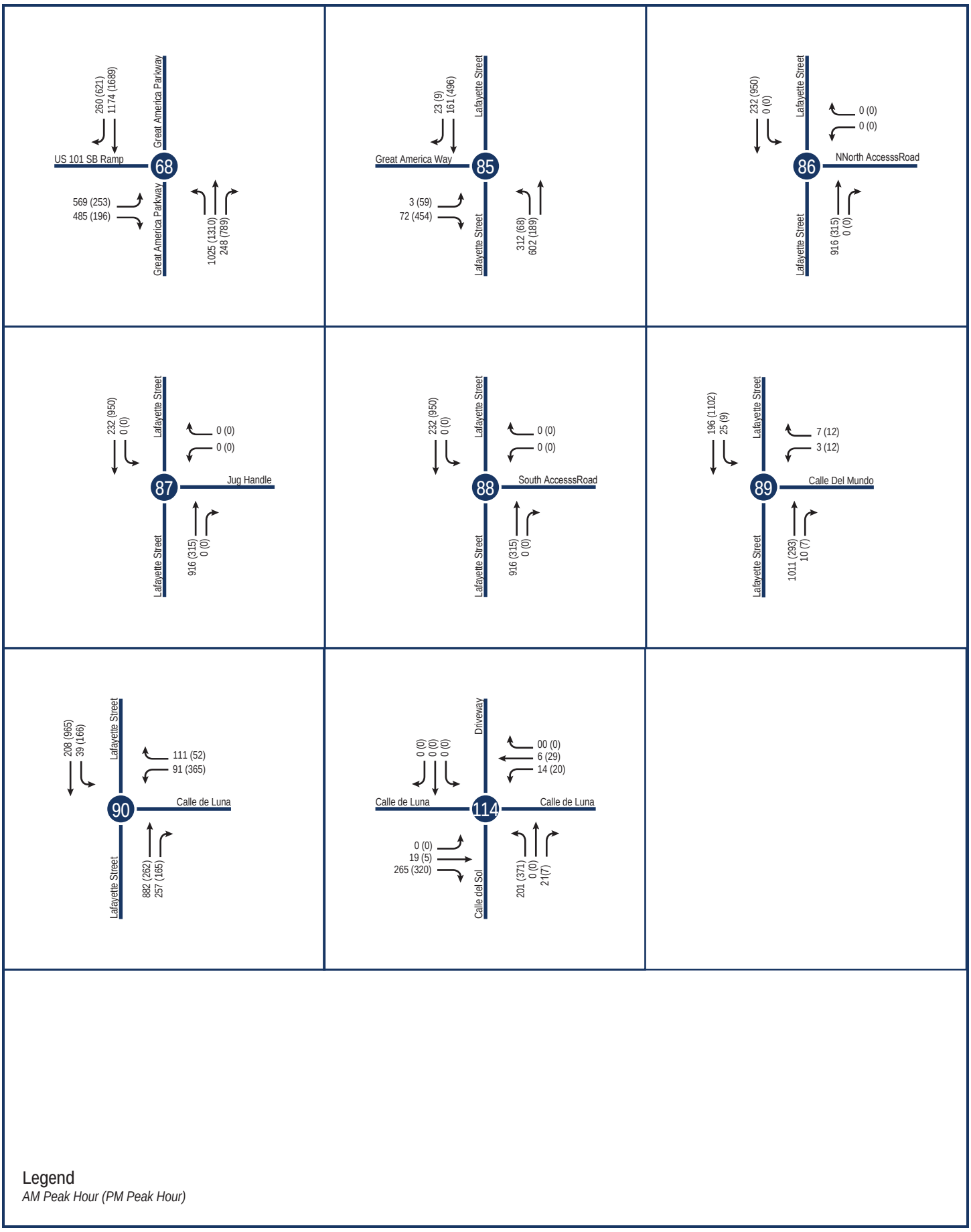
Legend

AM Peak Hour (PM Peak Hour)

Background No Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



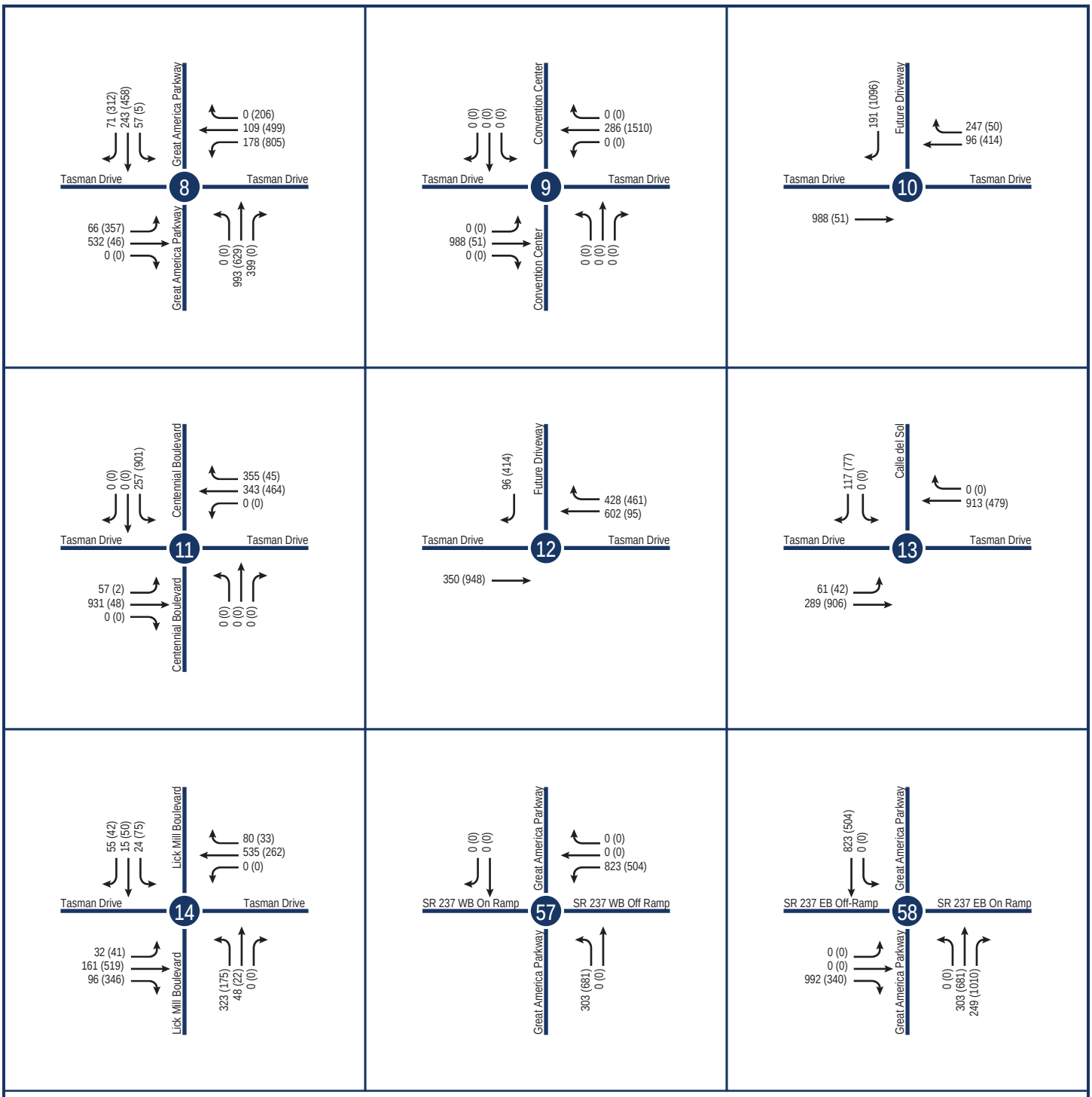
Legend

AM Peak Hour (PM Peak Hour)

Background No Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



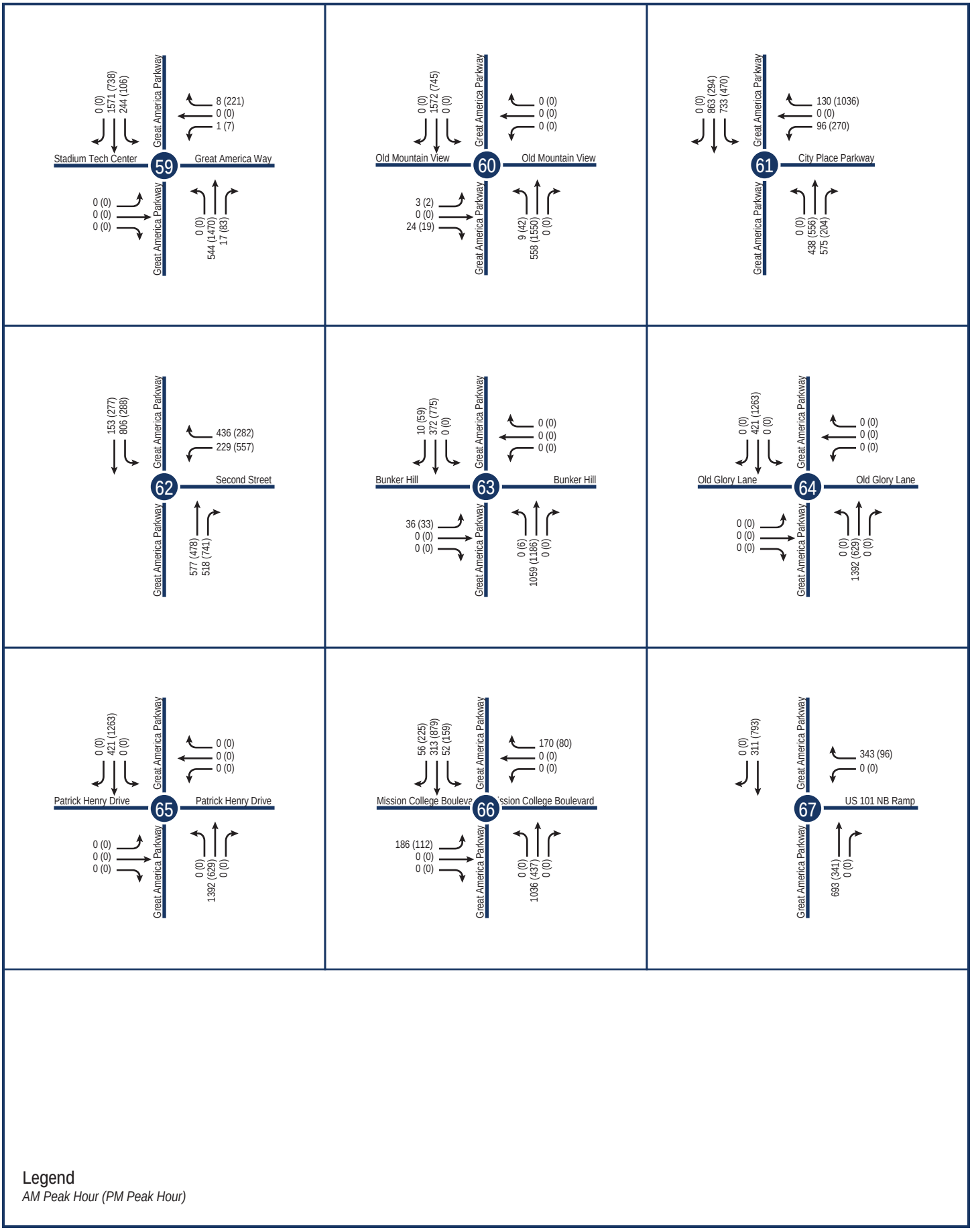
Legend

AM Peak Hour (PM Peak Hour)

Project Trip Assignment under Background Conditions (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



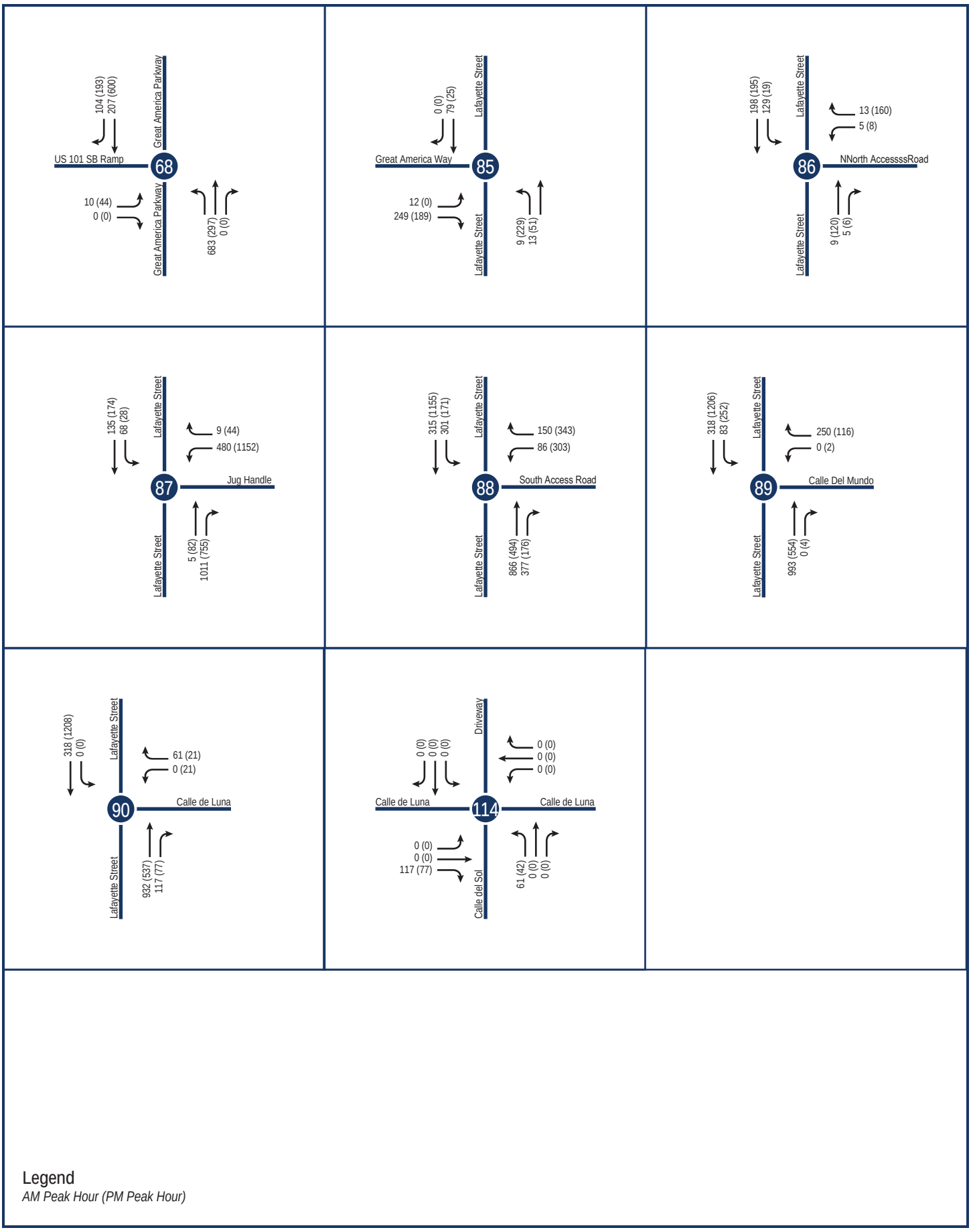
Legend

AM Peak Hour (PM Peak Hour)

Project Trip Assignment under Background Conditions (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

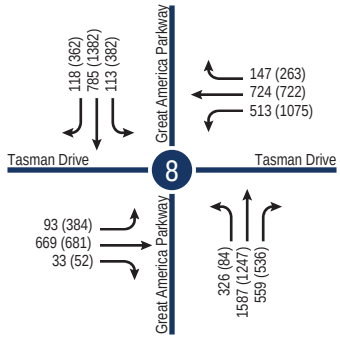
City Place, Santa Clara

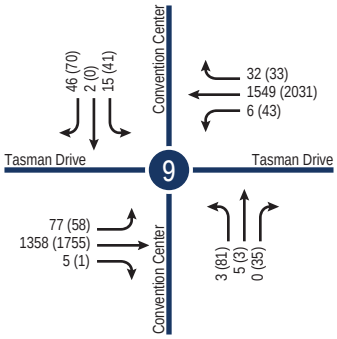


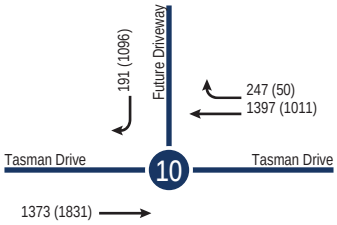
Project Trip Assignment under Background Conditions (Without Lick Mill Connection)

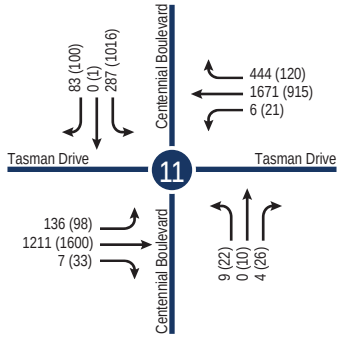
EIR Addendum Traffic Volumes

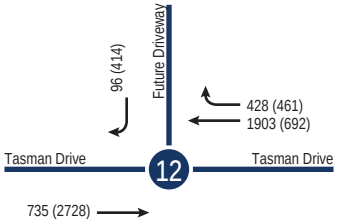
City Place, Santa Clara

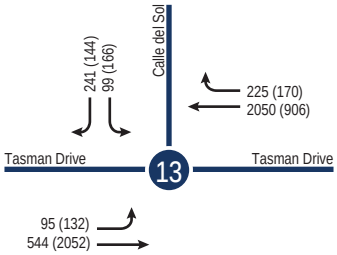


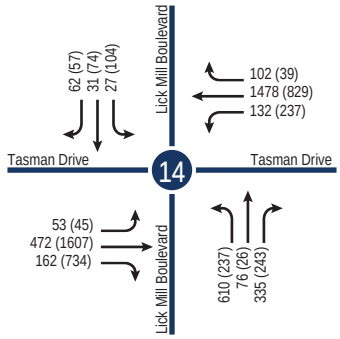


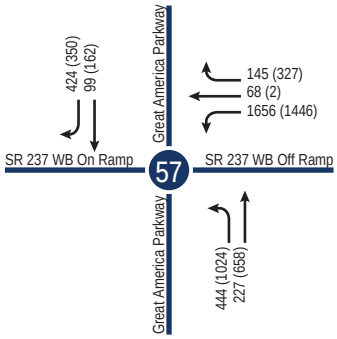


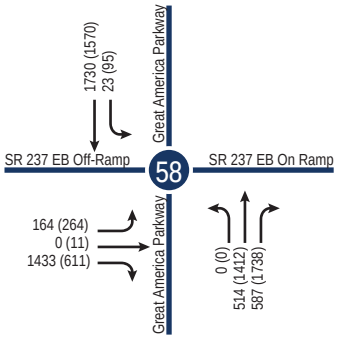












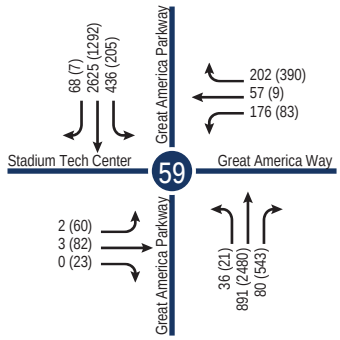
Legend

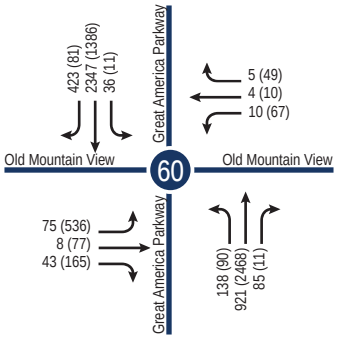
AM Peak Hour (PM Peak Hour)

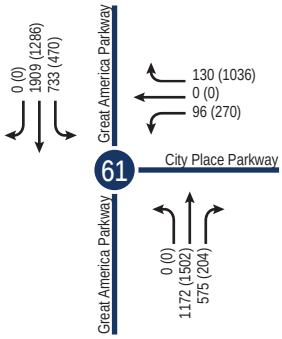
Background Plus Project Traffic Volumes (Without Lick Mill Connection)

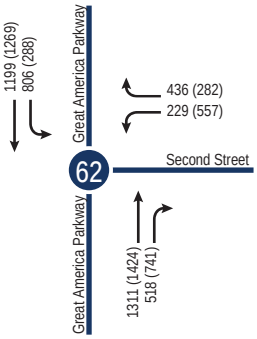
EIR Addendum Traffic Volumes

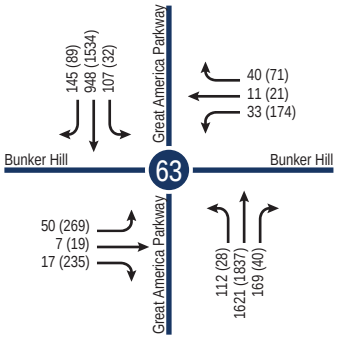
City Place, Santa Clara

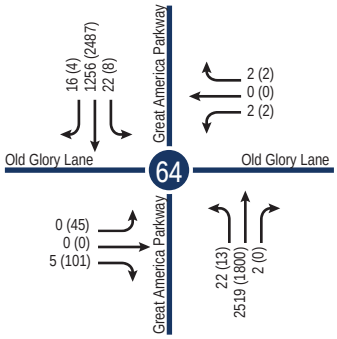


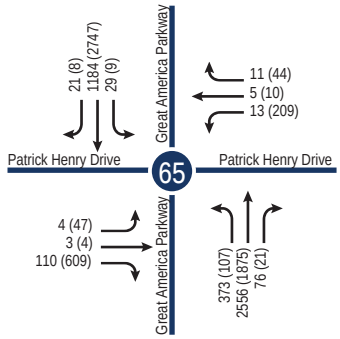


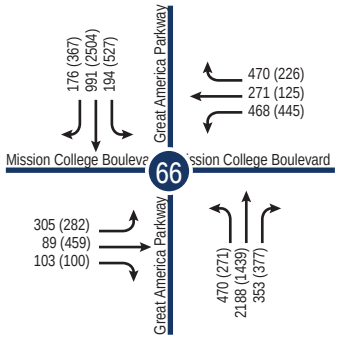


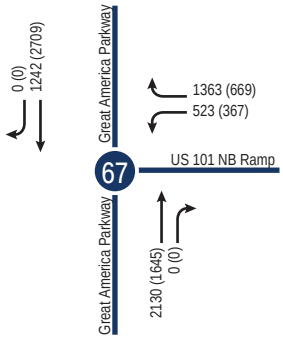












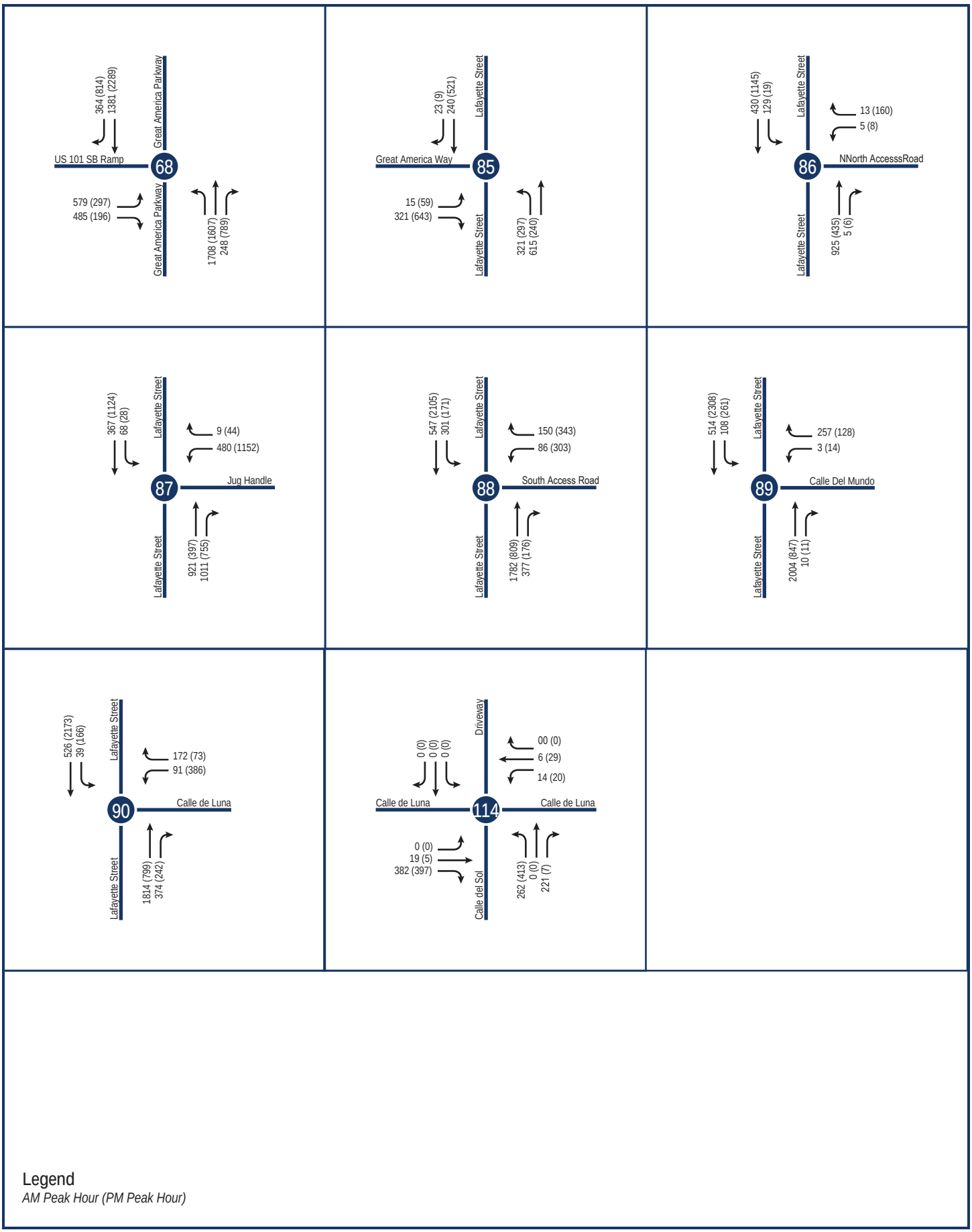
Legend

AM Peak Hour (PM Peak Hour)

Background Plus Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

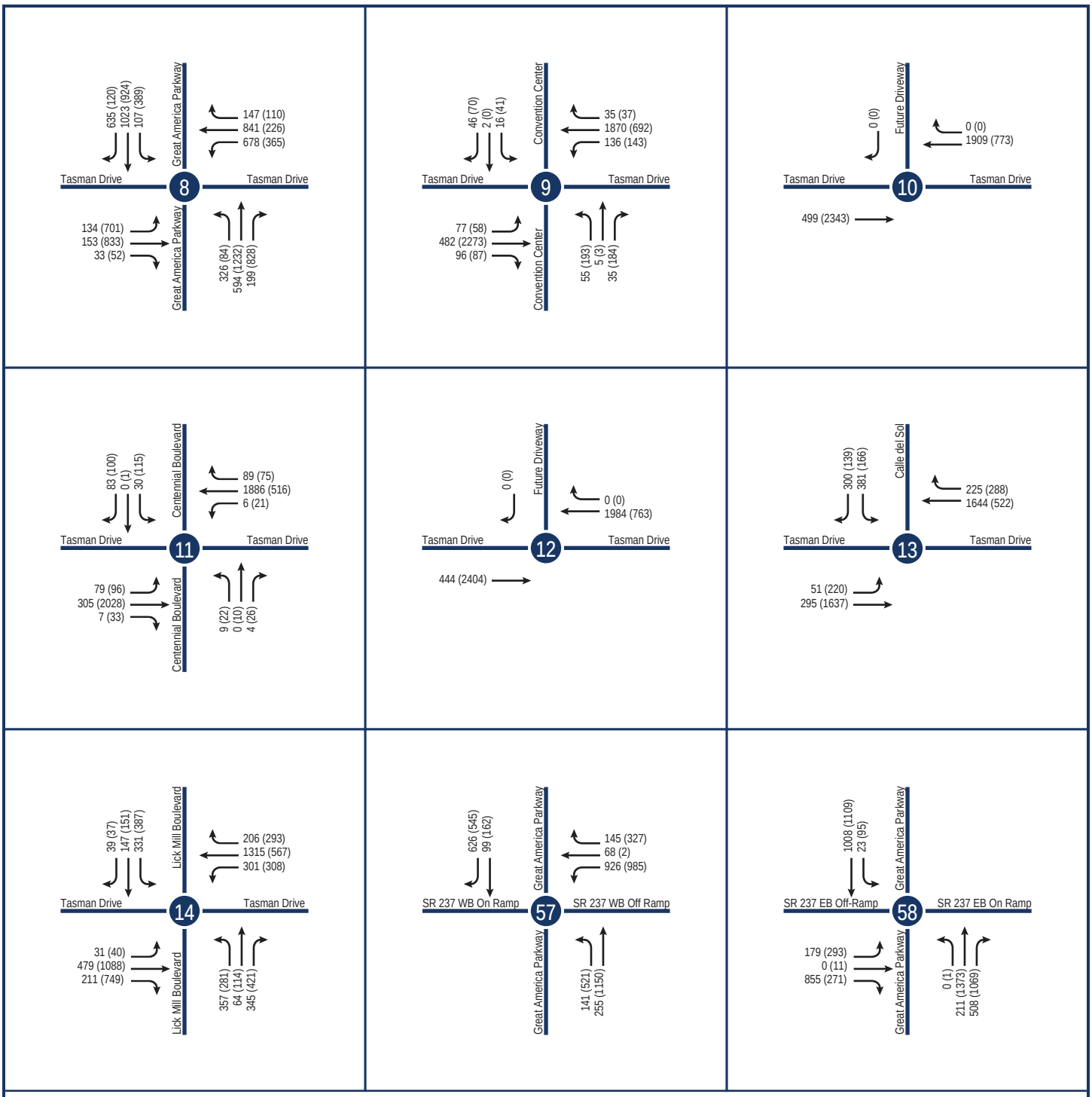
City Place, Santa Clara



Background Plus Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



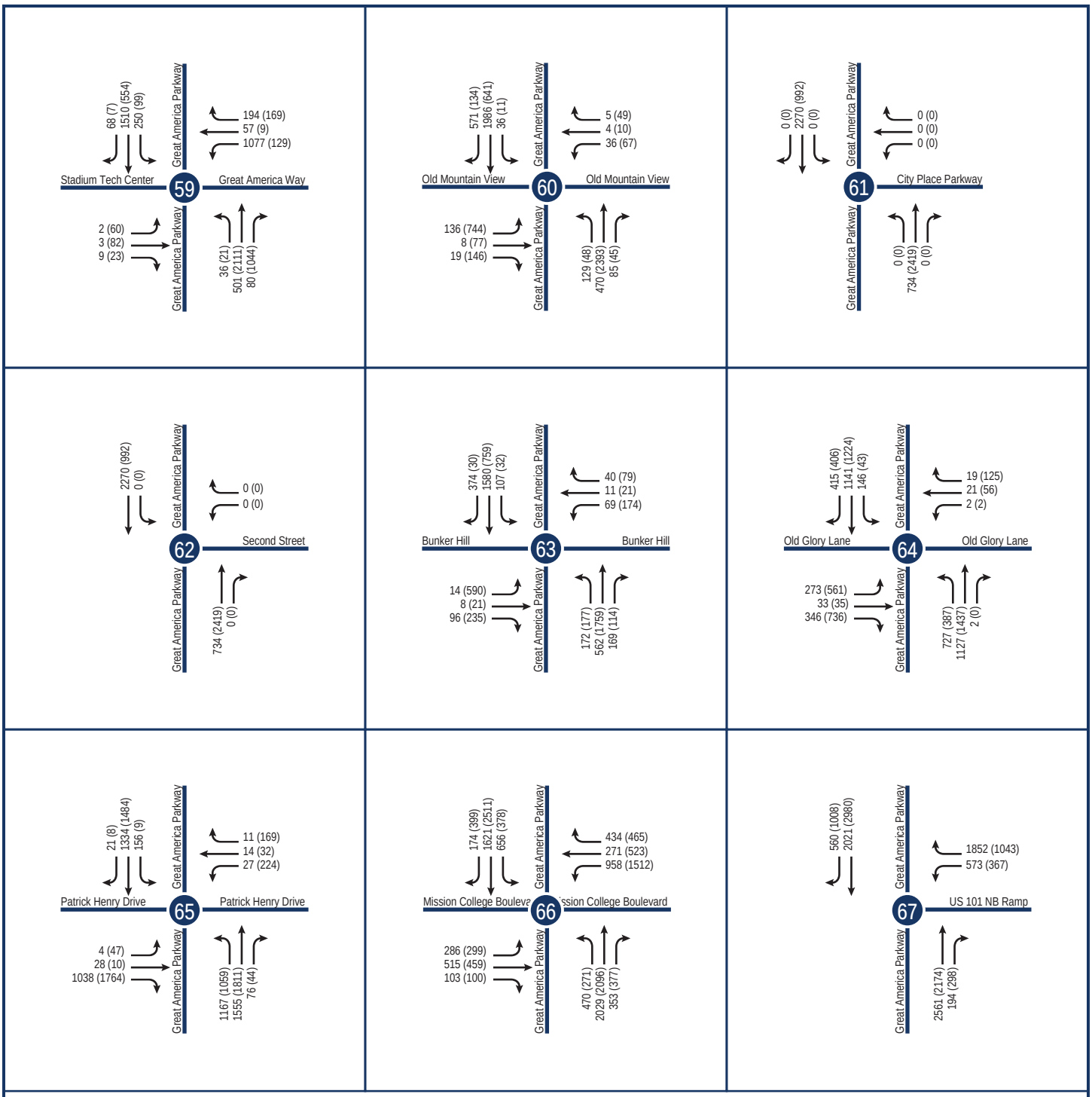
Legend

AM Peak Hour (PM Peak Hour)

Cumulative No Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



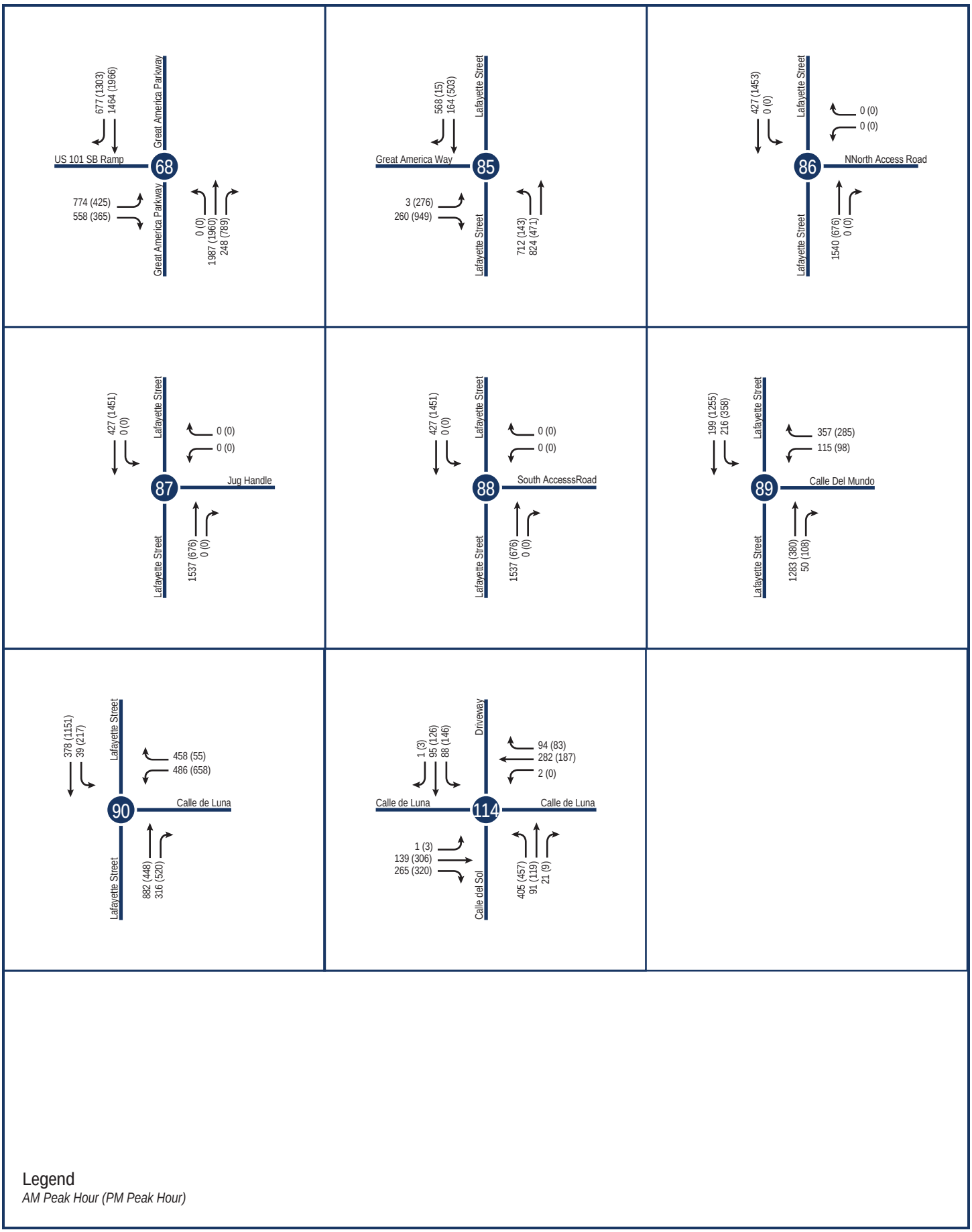
Legend

AM Peak Hour (PM Peak Hour)

Cumulative No Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

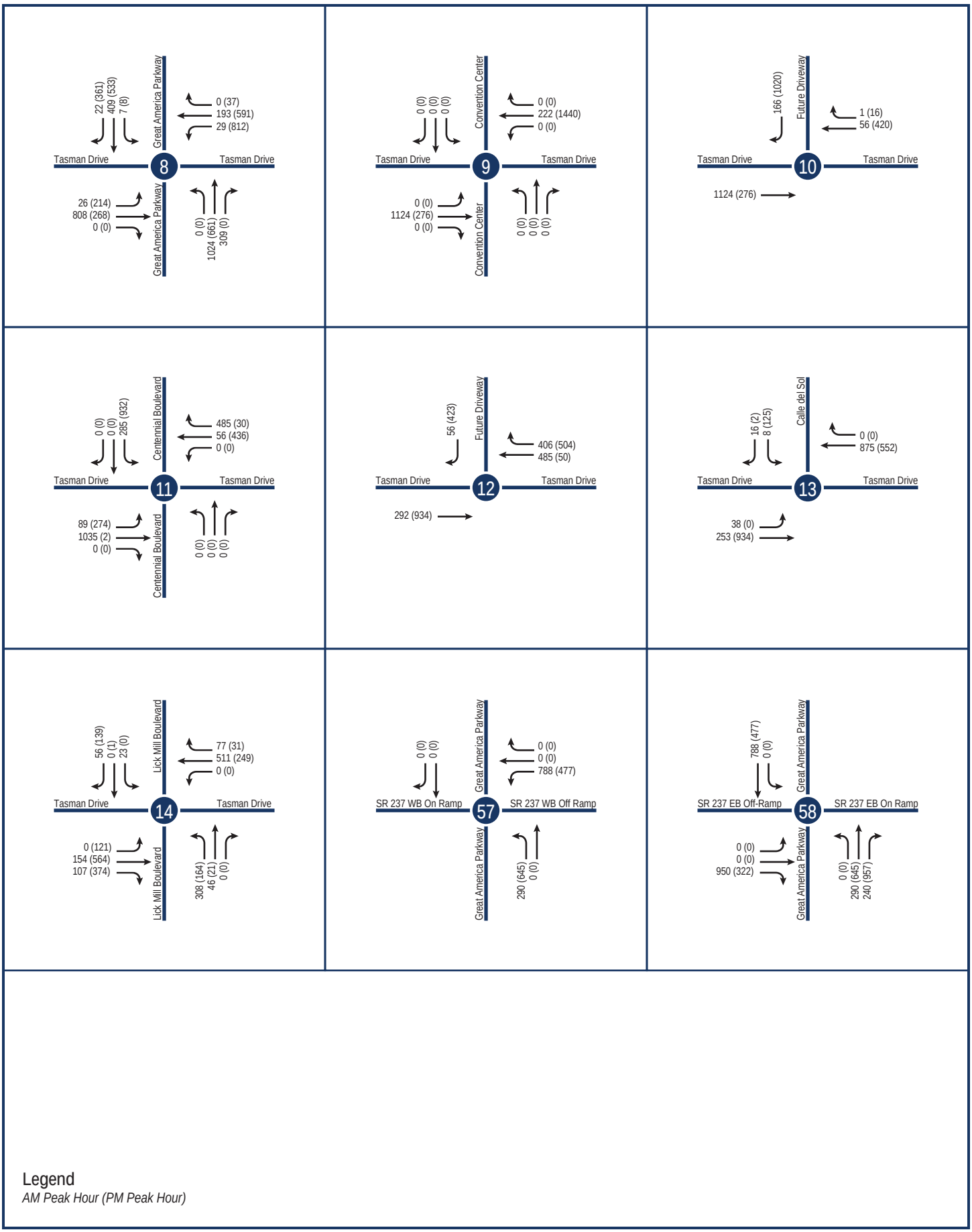
City Place, Santa Clara



Cumulative No Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



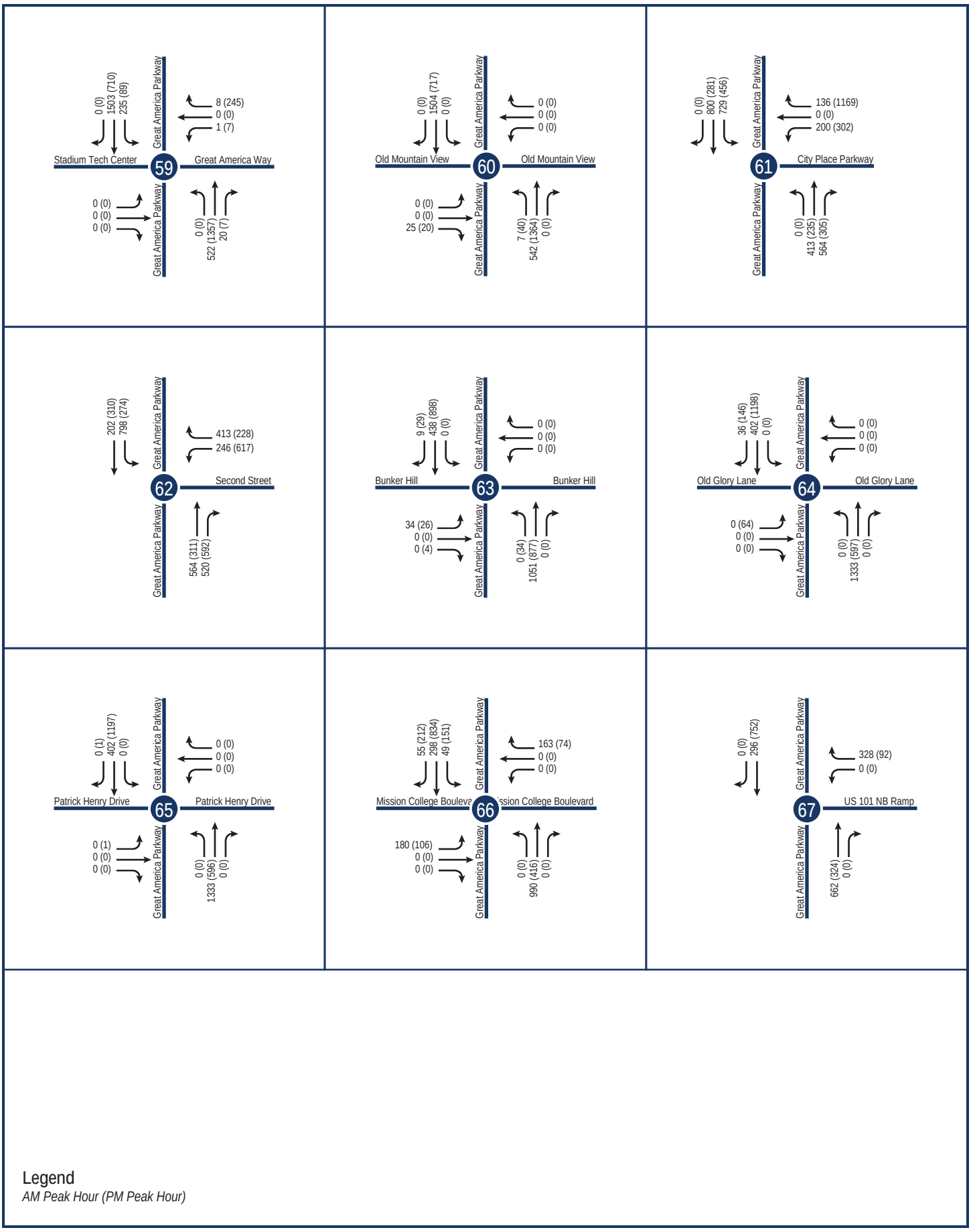
Legend

AM Peak Hour (PM Peak Hour)

Project Trip Assignment under Cumulative Conditions (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

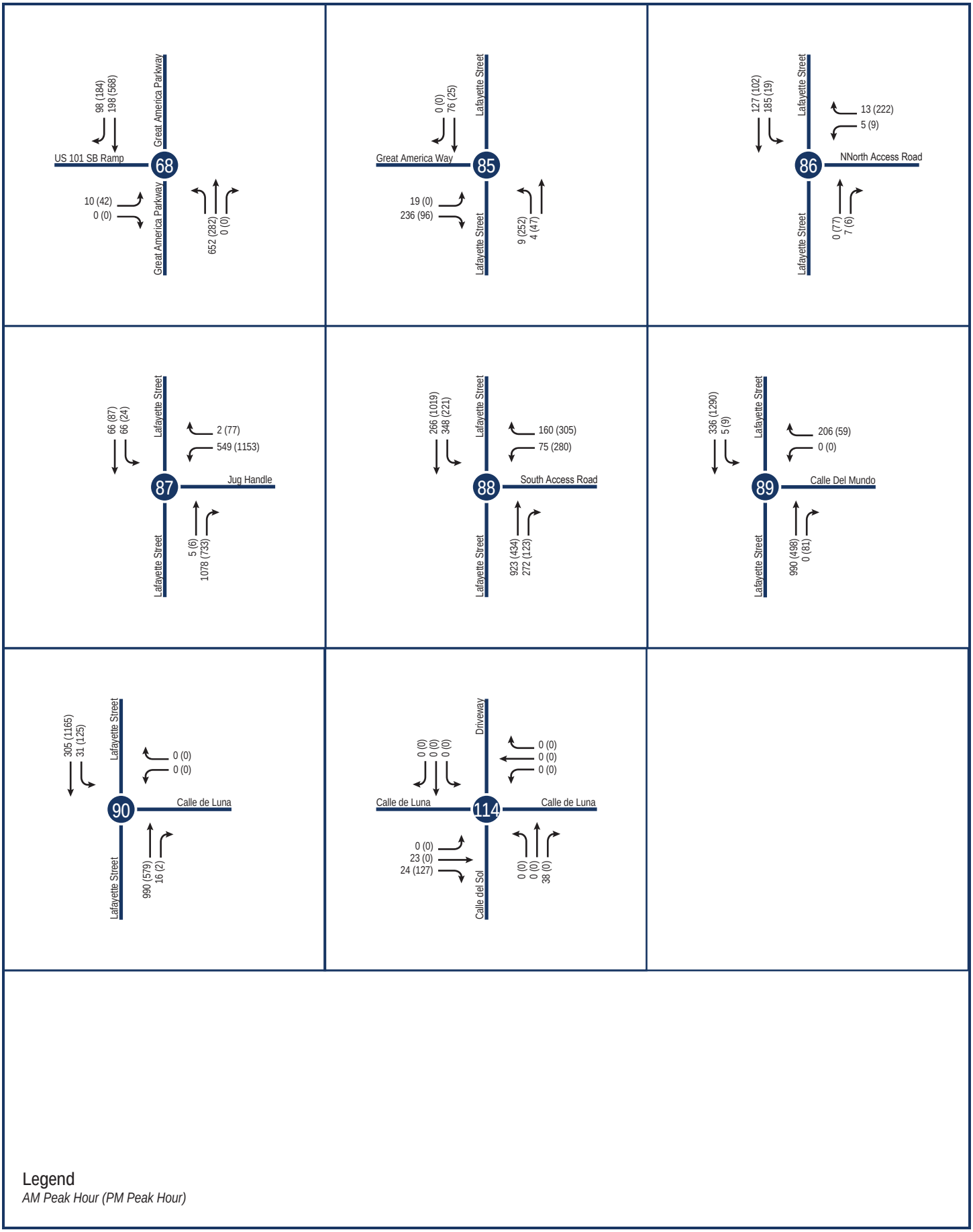
City Place, Santa Clara



Project Trip Assignment under Cumulative Conditions (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



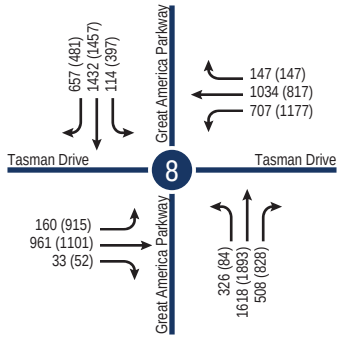
Legend

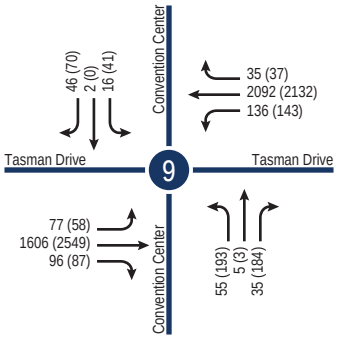
AM Peak Hour (PM Peak Hour)

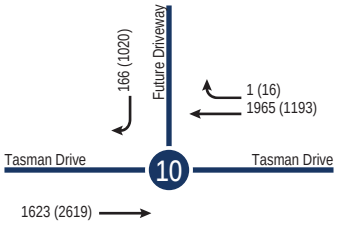
Project Trip Assignment under Cumulative Conditions (Without Lick Mill Connection)

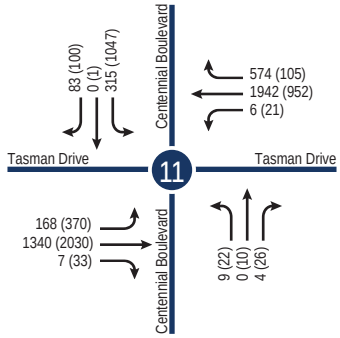
EIR Addendum Traffic Volumes

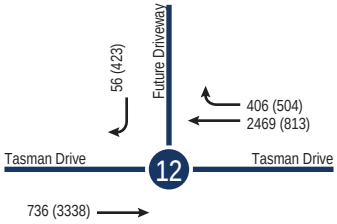
City Place, Santa Clara

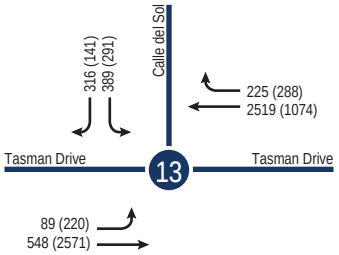


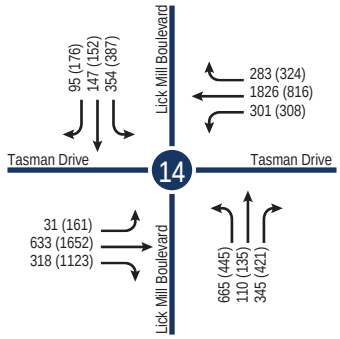


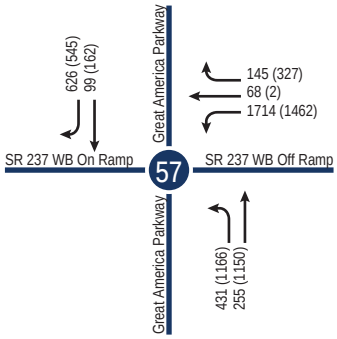


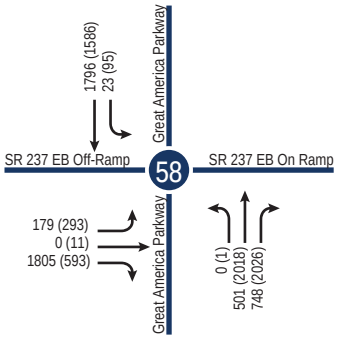












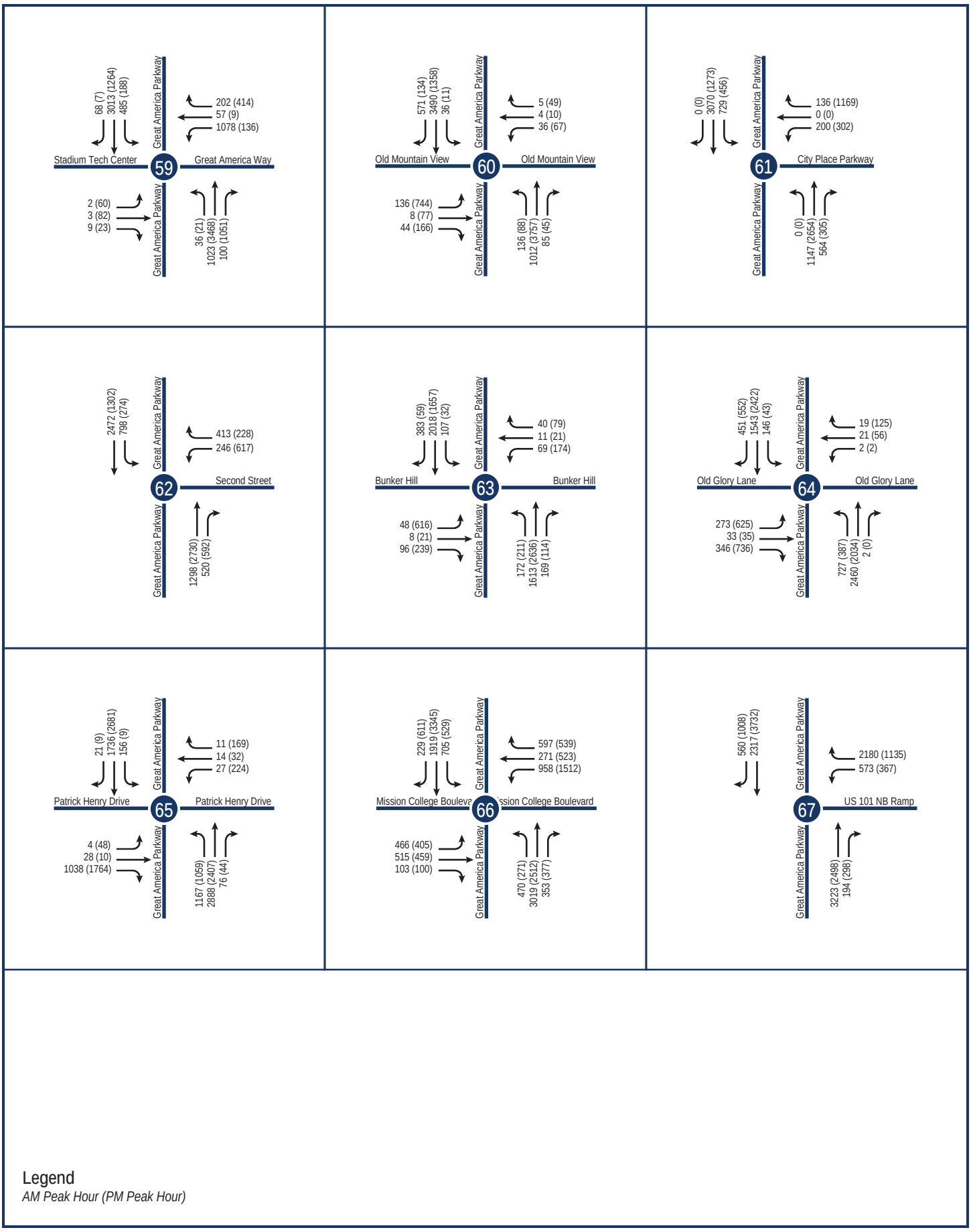
Legend

AM Peak Hour (PM Peak Hour)

Cumulative Plus Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



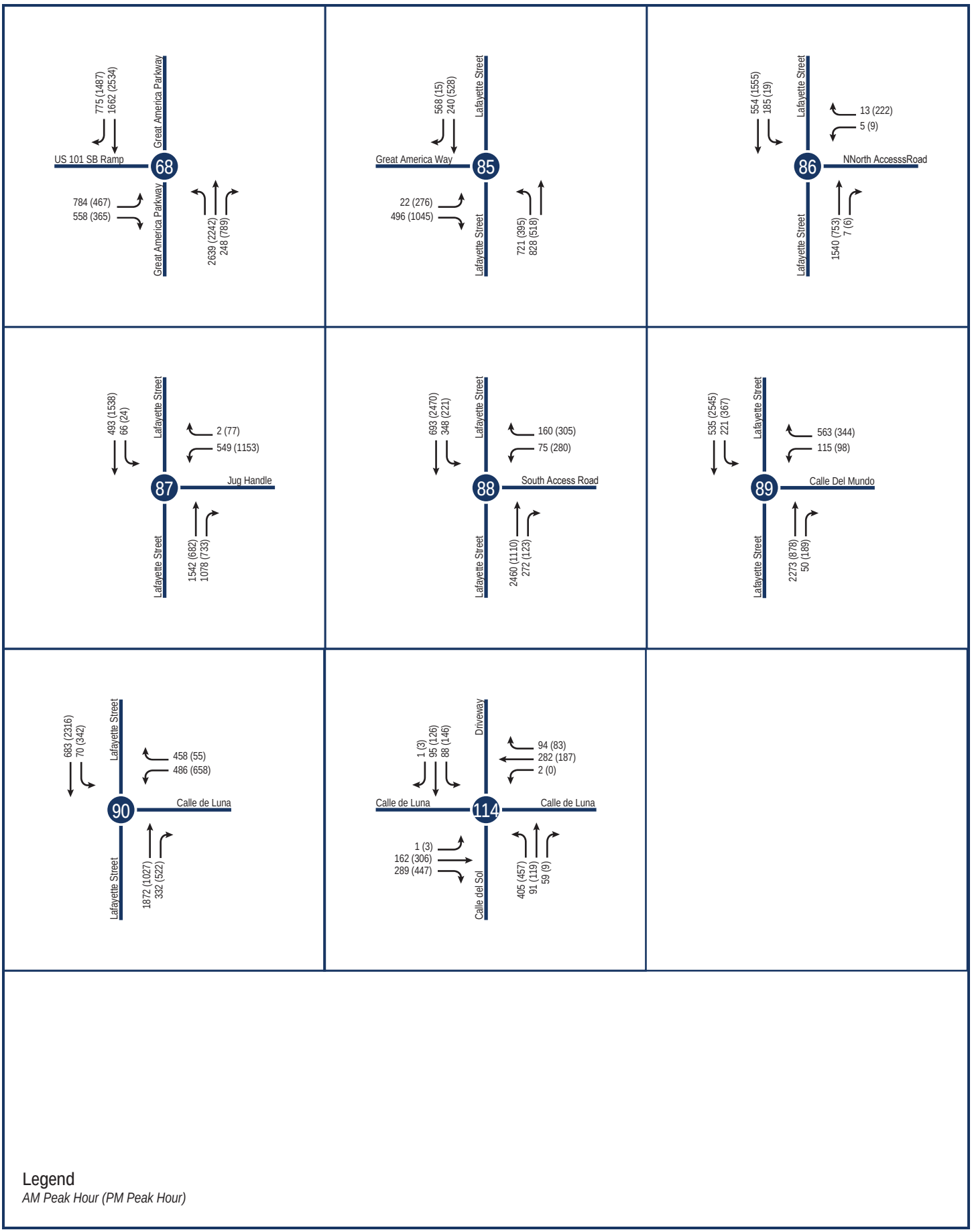
Legend

AM Peak Hour (PM Peak Hour)

Cumulative Plus Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



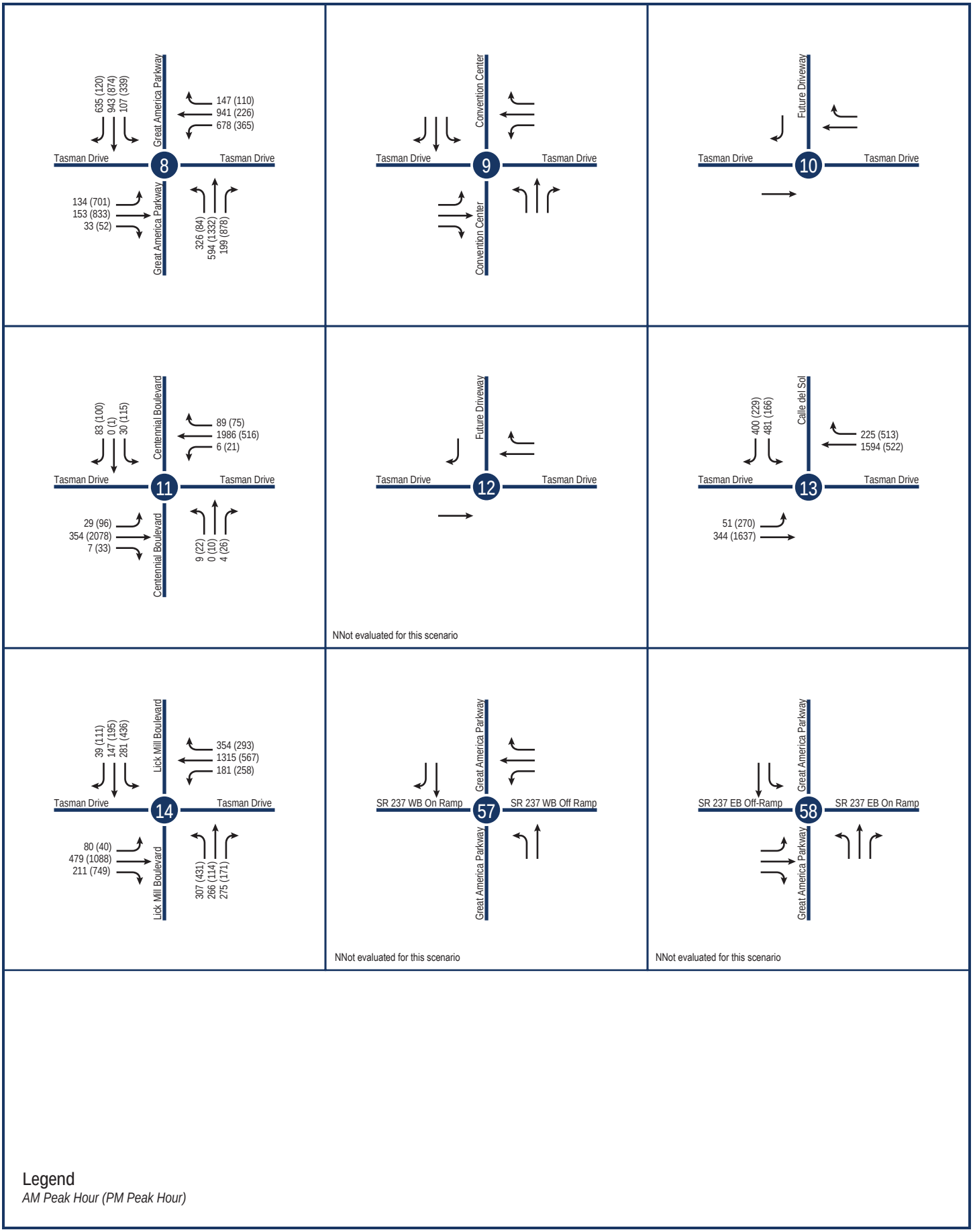
Legend

AM Peak Hour (PM Peak Hour)

Cumulative Plus Project Traffic Volumes (Without Lick Mill Connection)

EIR Addendum Traffic Volumes

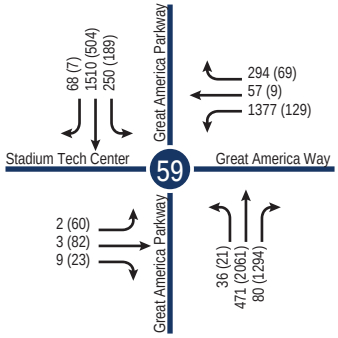
City Place, Santa Clara

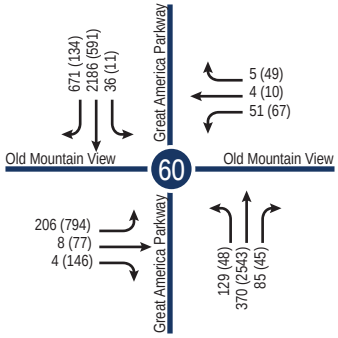


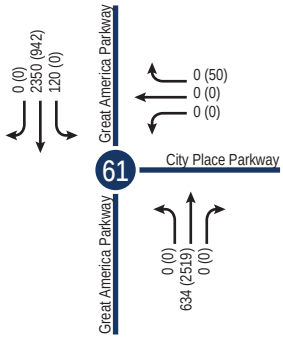
Cumulative No Project Traffic Volumes (With Lick Mill Connection)

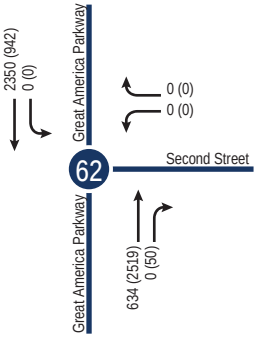
EIR Addendum Traffic Volumes

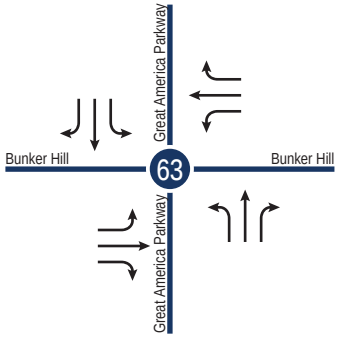
City Place, Santa Clara



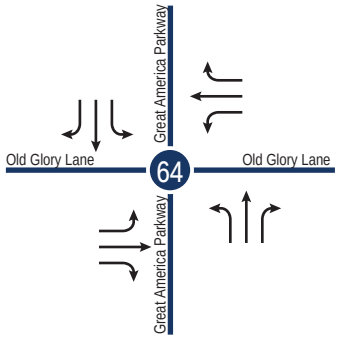








NNot evaluated for this scenario



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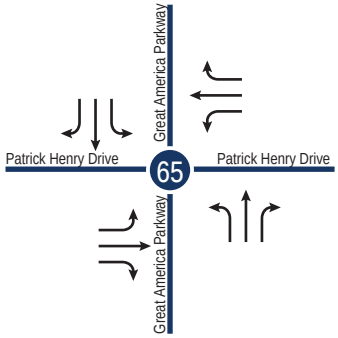

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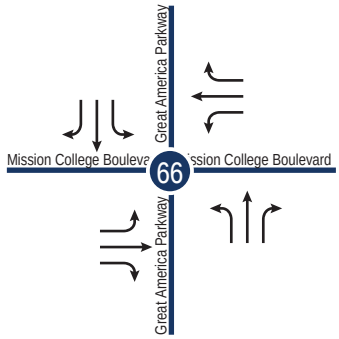

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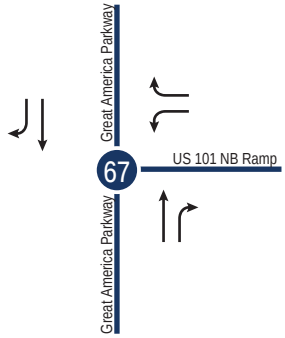


NNot evaluated for this scenario

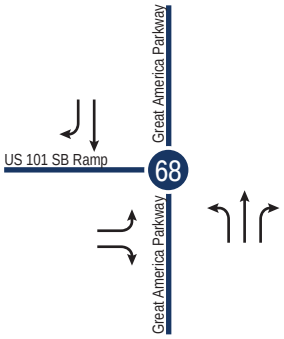
Legend

AM Peak Hour (PM Peak Hour)

Cumulative No Project Traffic Volumes (With Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



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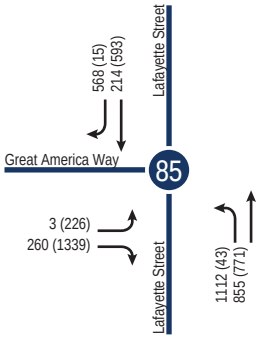
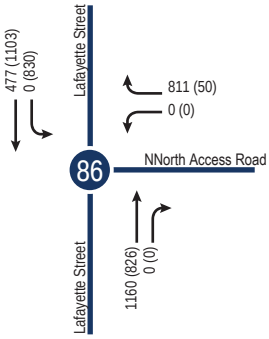
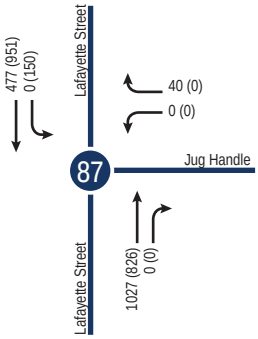
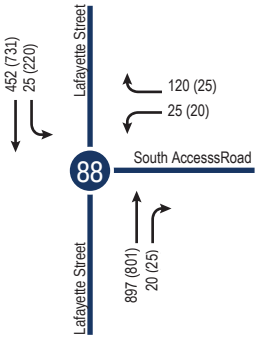
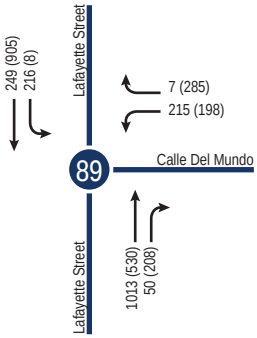
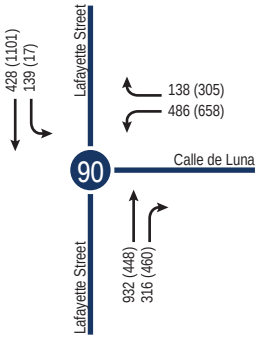


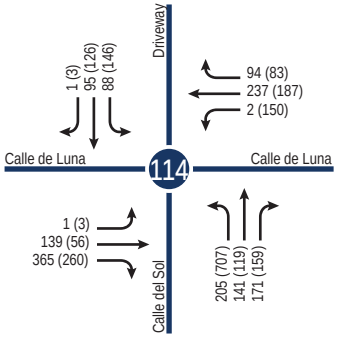












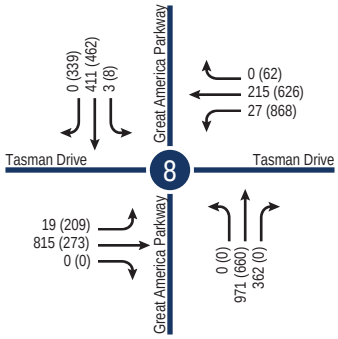
Legend

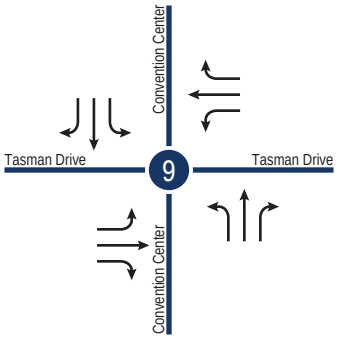
AM Peak Hour (PM Peak Hour)

Cumulative No Project Traffic Volumes (With Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara





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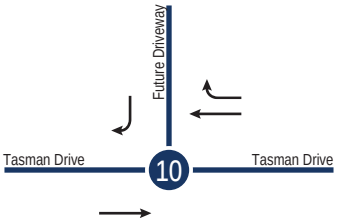

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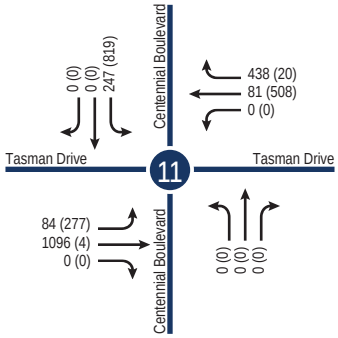

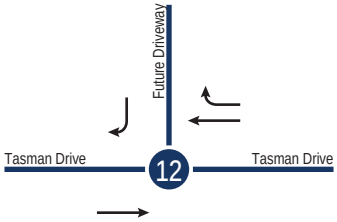

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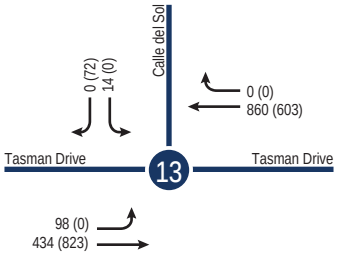

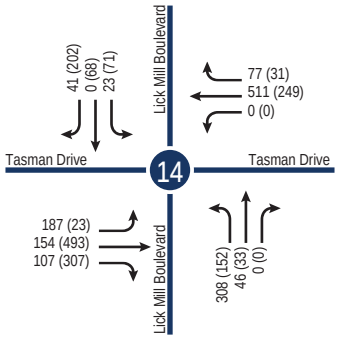

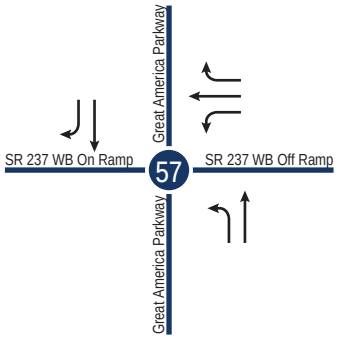

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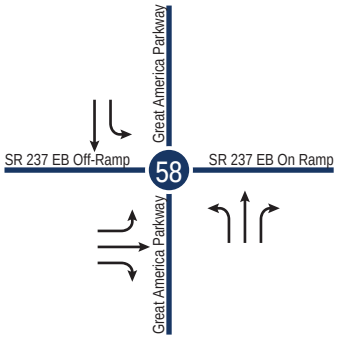


NNot evaluated for this scenario

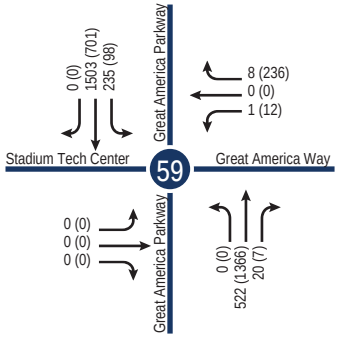
Legend

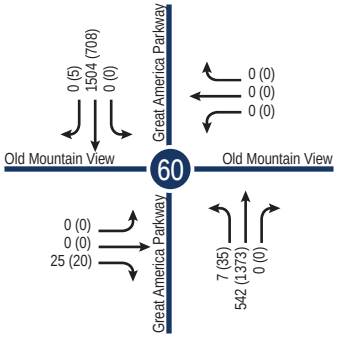
AM Peak Hour (PM Peak Hour)

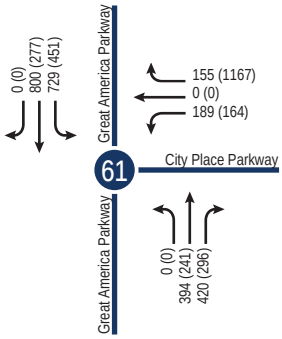
Project Trip Assignment under Cumulative Conditions (With Lick Mill Connection)

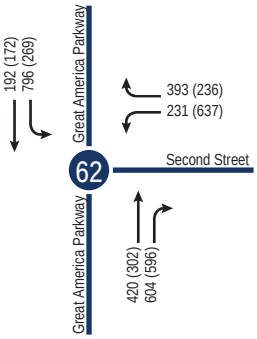
EIR Addendum Traffic Volumes

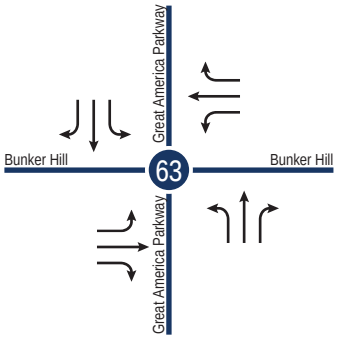
City Place, Santa Clara











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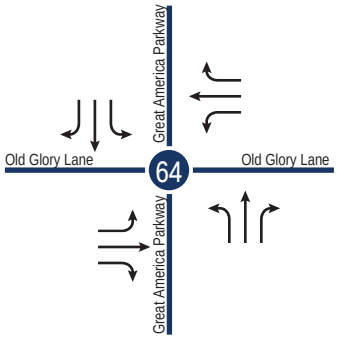

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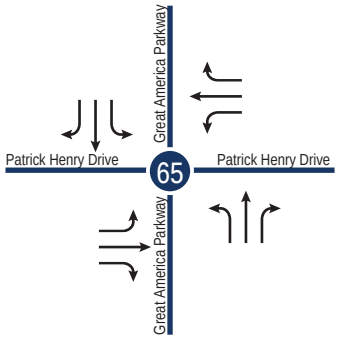

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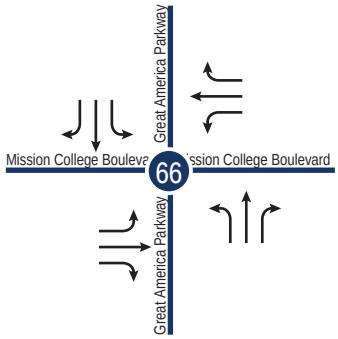

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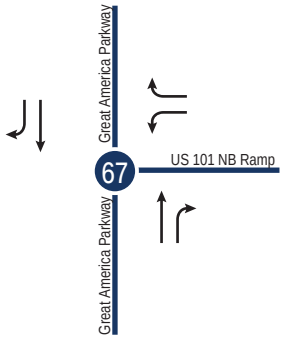


NNot evaluated for this scenario

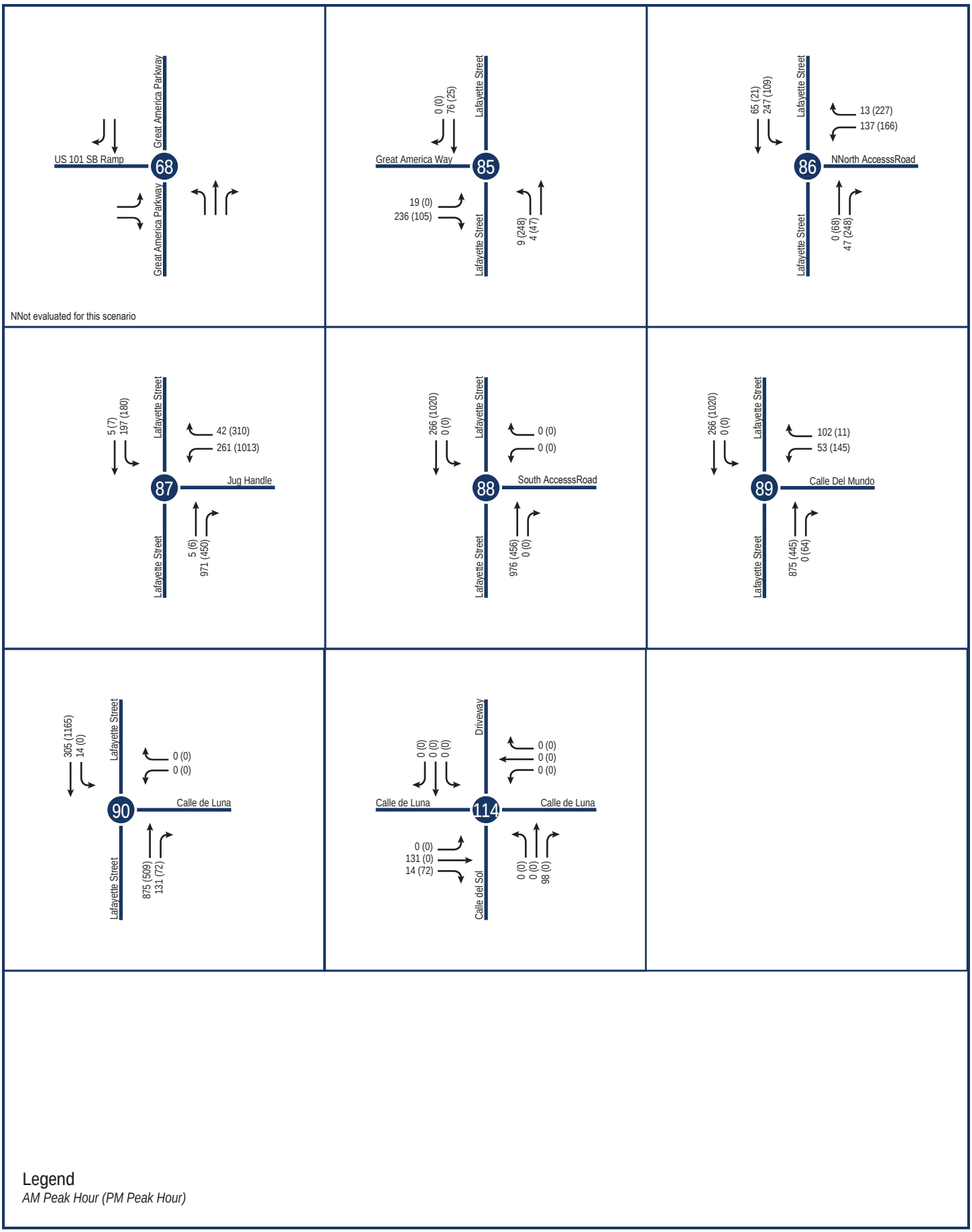
Legend

AM Peak Hour (PM Peak Hour)

Project Trip Assignment under Cumulative Conditions (With Lick Mill Connection)

EIR Addendum Traffic Volumes

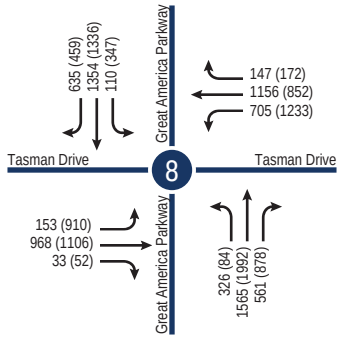
City Place, Santa Clara

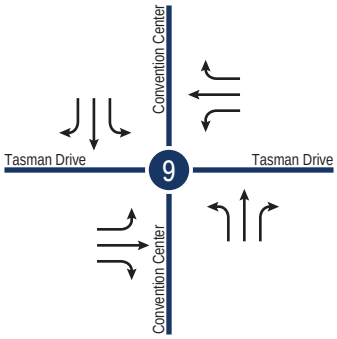


Project Trip Assignment under Cumulative Conditions (With Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara





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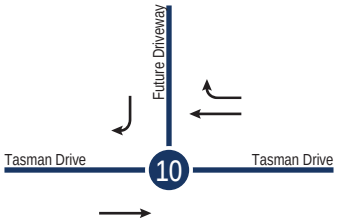

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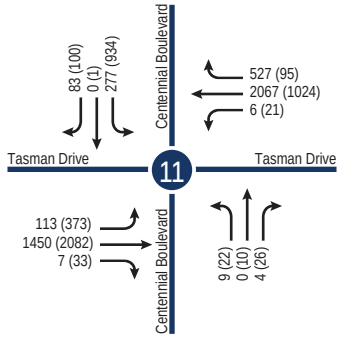

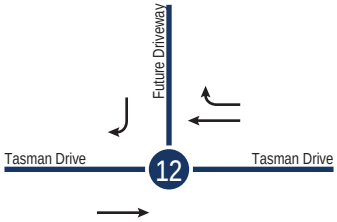

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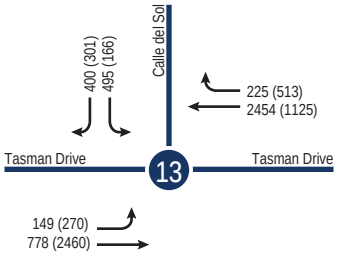

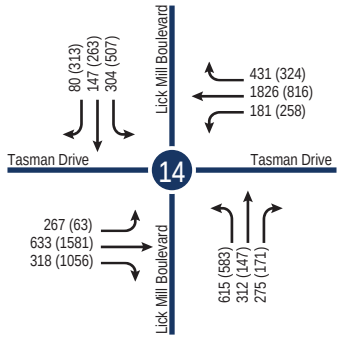

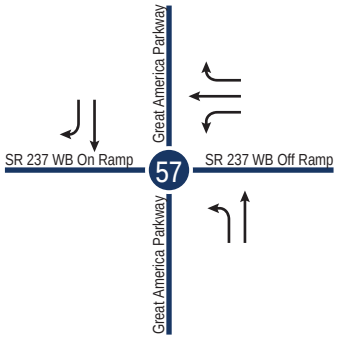

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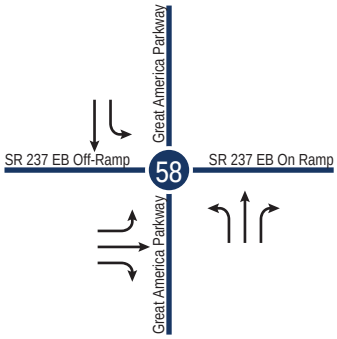


NNot evaluated for this scenario

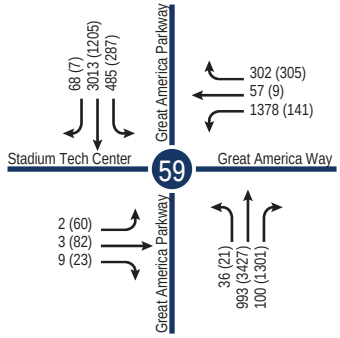
Legend

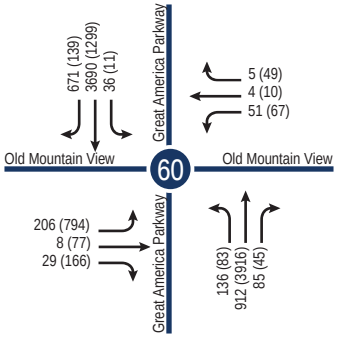
AM Peak Hour (PM Peak Hour)

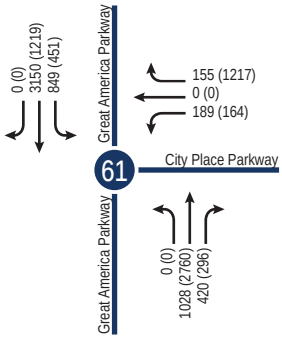
Cumulative Plus Project Traffic Volumes (With Lick Mill Connection)

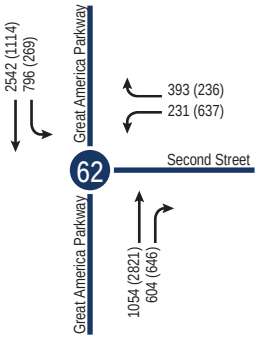
EIR Addendum Traffic Volumes

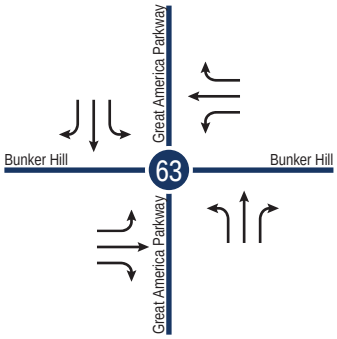
City Place, Santa Clara











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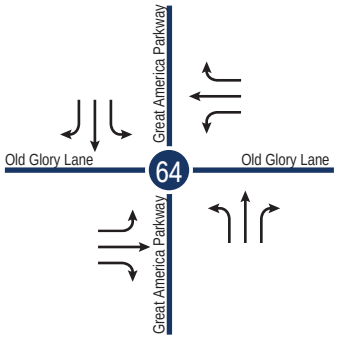

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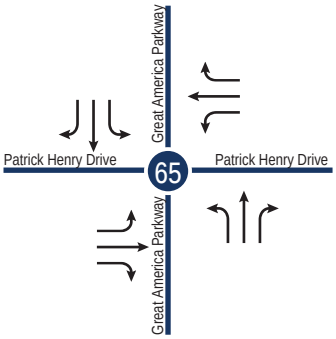

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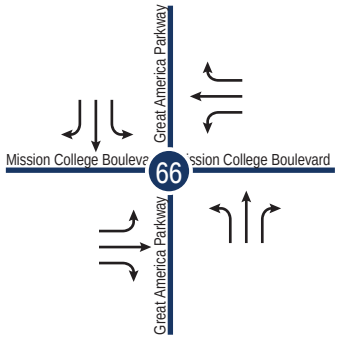

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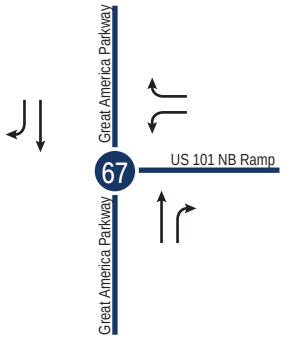


NNot evaluated for this scenario

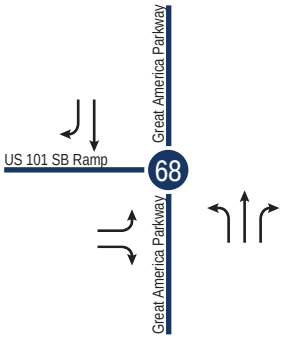
Legend

AM Peak Hour (PM Peak Hour)

Cumulative Plus Project Traffic Volumes (With Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara



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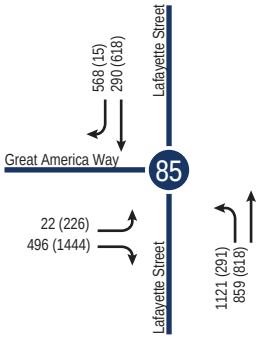
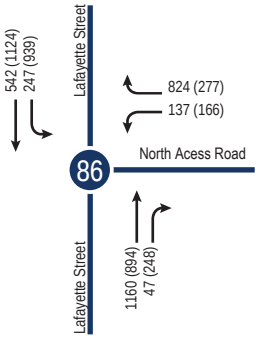
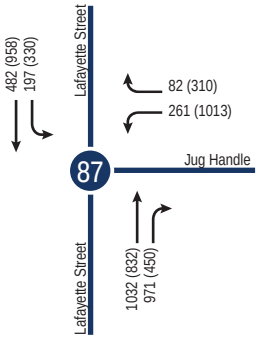
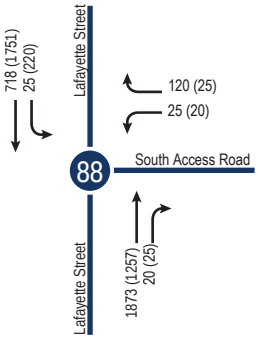
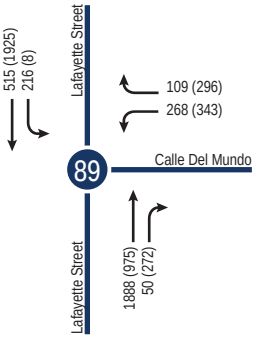
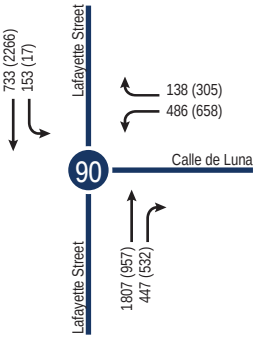


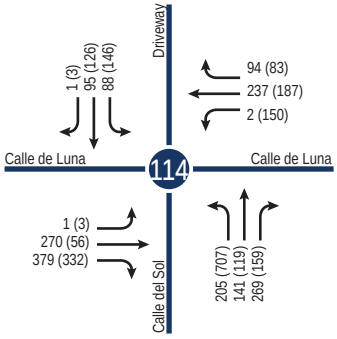












Legend

AM Peak Hour (PM Peak Hour)

Cumulative Plus Project Traffic Volumes (With Lick Mill Connection)

EIR Addendum Traffic Volumes

City Place, Santa Clara

Appendix C: Intersection Mitigation as identified by the 2016 EIR and other Development Projects

ID	Intersection	Jurisd. / CMP	Mitigation 2016 EIR Background and other Development Projects	Mitigation 2016 EIR Cumulative and other Development Projects
8	Great America Parkway/ Tasman Drive	Santa Clara (CMP)	Partial Mitigation: Add southbound right-turn lane and add a third westbound left-turn lane.	Partial Mitigation: Add southbound right-turn lane and add a third westbound left-turn lane.
13	Calle Del Sol/ Tasman Drive	Santa Clara	Add a westbound right-turn lane. Reconfigure southbound approach to include two left-turn lanes and one right-turn lane with overlap phase.	Add a westbound right-turn lane. Reconfigure southbound approach to include two left-turn lanes and one right-turn lane with overlap phase.
14	Lick Mill Blvd/ Tasman Drive	Santa Clara	Partial Mitigation: Reconfigure northbound and southbound approaches to two left-turn lanes, one through lane, and one right-turn lane. Change phasing on northbound / southbound approaches from split to protected. Add a second westbound left-turn lane.	Partial Mitigation: Reconfigure northbound and southbound approaches to two left-turn lanes, one through lane, and one right-turn lane. Change phasing on northbound / southbound approaches from split to protected. Add a second westbound left-turn lane.
57	Great America Parkway/SR 237 WB	San Jose (CMP)	Add third westbound left-turn lane and associated receiving lane under underpass. Add a second westbound right-turn lane.	Add third westbound left-turn lane and associated receiving lane under underpass. Add a second westbound right-turn lane.
58	Great America Parkway/SR 237 EB	San Jose (CMP)	Add third southbound through lane (from Int. 57) and a second eastbound right-turn lane.	Add third southbound through lane (from Int. 57) and a second eastbound right-turn lane.
59	Great America Parkway/ Great America Way	Santa Clara	Partial Mitigation: Add a second westbound right-turn lane with an overlap phase and a second south-bound left-turn lane.	Partial Mitigation: Add a second westbound right-turn lane with an overlap phase and a second southbound left-turn lane.
60	Great America Parkway/Old Mountain View	Santa Clara	Partial Mitigation: Add a second eastbound left-turn lane.	Partial Mitigation: Add a second eastbound left-turn lane.
64	Great America Parkway/Old Glory Lane	Santa Clara	Partial Mitigation: Add a second northbound left-turn lane. Install an overlap phase for eastbound right-turning vehicles (Yahoo! Santa Clara Campus TIA, August 2009[21]).	Partial Mitigation: Add a second northbound left-turn lane. Install an overlap phase for eastbound right-turning vehicles (Yahoo! Santa Clara Campus TIA, August 2009[21]).

[21] Yahoo! Development Agreement has expired. However, the mitigation is adopted by the Patrick Henry Drive Specific Plan Development. Whilst this development will not be constructed until cumulative conditions, it is adopted for background for this study to allow for a comparison between Scheme C and the 2016 EIR which also assumed this mitigation for background conditions.

ID	Intersection	Jurisd. / CMP	Mitigation 2016 EIR Background and other Development Projects	Mitigation 2016 EIR Cumulative and other Development Projects
65	Great America Parkway / Patrick Henry Drive	Santa Clara	Partial Mitigation: Add a second northbound left-turn lane and an eastbound signal-controlled right-turn lane. The eastbound right-turn lane includes the addition of a fourth southbound lane on Great America Parkway between Patrick Henry Drive and Mission College Boulevard (Yahoo! Santa Clara Campus TIA, August 2009[22]).	Partial Mitigation: Add a second northbound left-turn lane and an eastbound signal-controlled right-turn lane. The eastbound right-turn lane includes the addition of a fourth southbound lane on Great America Parkway between Patrick Henry Drive and Mission College Boulevard (Yahoo! Santa Clara Campus TIA, August 2009[22]).
66	Great America Parkway/ Mission College Boulevard	Santa Clara (CMP)	Partial Mitigation: Add a southbound and a westbound right-turn pocket (Yahoo! Santa Clara Campus TIA, August 2009[23]).	Partial Mitigation: Add a southbound and a westbound right-turn pocket (Yahoo! Santa Clara Campus TIA, August 2009[23]).
89	Lafayette St/ Calle Del Mundo	Santa Clara	N/A	Signalize intersection based on Tasman East Specific Plan Mitigation
90	Lafayette St/ Calle de Luna	Santa Clara	Partial Mitigation: Reconstruct the westbound approach to include two left-turn lanes and one right-turn lane.[24]	Partial Mitigation: Reconstruct the westbound approach to include two left-turn lanes and one right-turn lane.[24]
114	Calle Del Sol/ Calle De Luna	Santa Clara	Signalize intersection and modify layout as follows based on 2016 EIR Intersection Analysis[25] • Eastbound: one through lane and one right-turn lane • Westbound: one left-turn/through and one through lane • Northbound: one left-turn and one through/right-turn lane	Signalize intersection and modify layout as follows based on Tasman East Specific Plan Mitigation • Eastbound: one left-turn lane, one through lane and one right-turn lane • Westbound: one left-turn and one through/right-turn lane • Northbound: one left-turn and one through/right-turn lane • Southbound: one left-turn and one through/right-turn lane

[22] Yahoo! Development Agreement has expired. However, the mitigation is adopted by the Patrick Henry Drive Specific Plan Development, though with the eastbound right-turn lane to be signal controlled where the Yahoo! mitigation proposed a free right-turn. Whilst this development will not be constructed until cumulative conditions, it is adopted for background for this study to allow for a comparison between Scheme C and the 2016 EIR which also assumed this mitigation for background conditions.

[23] Yahoo! Development Agreement has expired. However, the mitigation is adopted for this analysis for both background and cumulative conditions to allow for a consistent assessment of Scheme C compared to the 2016 EIR which also assumed these mitigations.

[24] This mitigation is proposed in the 2016 EIR. To allow for a consistent assessment and comparison of Scheme C to the 2016 EIR impacts, this configuration is adopted for this study.

[25] Signalization and modified lane configuration are proposed for background conditions in the 2016 EIR. To allow for a consistent assessment and comparison of Scheme C to the 2016 EIR impacts, this configuration is adopted for this study.

Appendix D: Synchro Reports

Background + Project Scheme C (Without Lick Mill Connection)

AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	669	33	513	724	147	326	1587	559	113	785	118
Future Volume (vph)	93	669	33	513	724	147	326	1587	559	113	785	118
Ideal Flow (vphpl)	1744	2040	2100	1733	2040	2100	1744	2130	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	270		110	245		100	170		0	250		250
Storage Lanes	2		1	3		1	2		1	2		1
Taper Length (ft)	115			140			100			65		
Lane Util. Factor	0.97	0.95	1.00	0.94	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151			151			362			151
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			704			1278			856	
Travel Time (s)		17.5			16.0			29.0			19.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	101	727	36	558	787	160	354	1725	608	123	853	128
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	12.0	20.0	20.0	12.0	20.0	20.0	14.0	22.0	22.0	11.0	19.0	19.0
Total Split (%)	18.5%	30.8%	30.8%	18.5%	30.8%	30.8%	21.5%	33.8%	33.8%	16.9%	29.2%	29.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	8.1	16.6	16.6	9.0	19.4	19.4	10.8	21.6	21.6	7.8	16.6	16.6
Actuated g/C Ratio	0.12	0.26	0.26	0.14	0.30	0.30	0.17	0.33	0.33	0.12	0.26	0.26

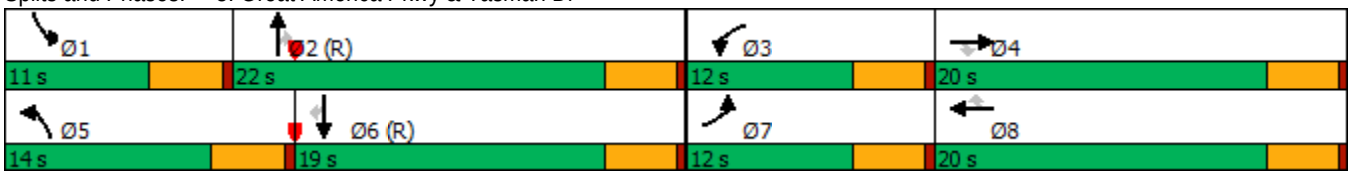
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.26	0.75	0.06	0.89	0.70	0.26	0.68	0.91	0.74	0.33	0.59	0.23
Control Delay	27.1	27.8	0.2	39.2	9.0	3.1	34.2	40.6	25.3	32.6	26.7	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	27.8	0.2	39.2	9.0	3.1	34.2	40.6	25.3	32.6	26.7	16.3
LOS	C	C	A	D	A	A	C	D	C	C	C	B
Approach Delay		26.6			19.5			36.3			26.1	
Approach LOS		C			B			D			C	
Queue Length 50th (ft)	19	137	0	59	105	14	78	~291	187	28	23	1
Queue Length 95th (ft)	38	194	0	m70	m114	m15	122	#342	#232	53	179	81
Internal Link Dist (ft)		688			624			1198			776	
Turn Bay Length (ft)	270		110	245		100	170			250		250
Base Capacity (vph)	436	993	569	630	1132	627	533	1894	823	387	1457	559
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.73	0.06	0.89	0.70	0.26	0.66	0.91	0.74	0.32	0.59	0.23

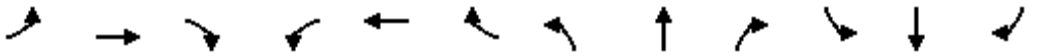
Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 29.0 Intersection LOS: C
Intersection Capacity Utilization 72.1% ICU Level of Service C
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Great America Pkwy & Tasman Dr





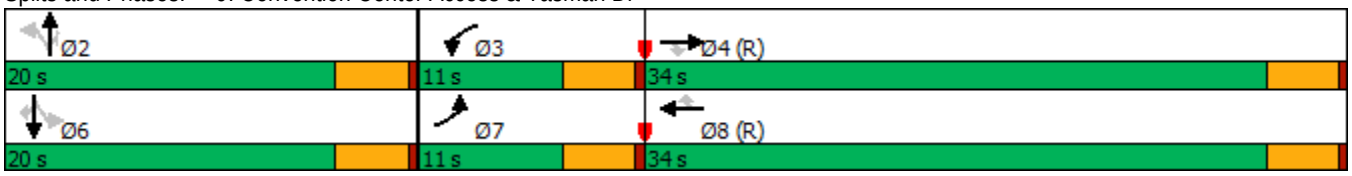
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1358	5	6	1549	32	3	5	0	15	2	46
Future Volume (vph)	77	1358	5	6	1549	32	3	5	0	15	2	46
Ideal Flow (vphpl)	1879	2040	2100	1879	2040	2100	1744	1938	1785	1879	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	365		95	155		145	0		0	0		0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	70			75			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850						0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	1750	3800	1750	3151	1900	1750	1750	1900	1750
Flt Permitted	0.950			0.950			0.757			0.754		
Satd. Flow (perm)	1750	3800	1750	1750	3800	1750	2511	1900	1750	1389	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			84			84						84
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		704			936			342			192	
Travel Time (s)		16.0			21.3			7.8			4.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1476	5	7	1684	35	3	5	0	16	2	50
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	11.0	34.0	34.0	11.0	34.0	34.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	16.9%	52.3%	52.3%	16.9%	52.3%	52.3%	30.8%	30.8%	30.8%	30.8%	30.8%	30.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	8.0	31.0	31.0	8.0	31.0	31.0	17.0	17.0		17.0	17.0	17.0
Actuated g/C Ratio	0.12	0.48	0.48	0.12	0.48	0.48	0.26	0.26		0.26	0.26	0.26

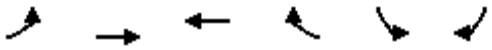
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.39	0.81	0.01	0.03	0.93	0.04	0.00	0.01		0.04	0.00	0.10
Control Delay	25.0	19.0	0.0	23.3	25.5	1.9	17.7	18.0		18.5	18.0	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	25.0	19.0	0.0	23.3	25.5	1.9	17.7	18.0		18.5	18.0	2.6
LOS	C	B	A	C	C	A	B	B		B	B	A
Approach Delay		19.2			25.0			17.9			6.8	
Approach LOS		B			C			B			A	
Queue Length 50th (ft)	23	262	0	2	234	0	0	2		5	1	0
Queue Length 95th (ft)	m36	340	m0	m5	#453	m1	3	9		18	5	12
Internal Link Dist (ft)		624			856			262			112	
Turn Bay Length (ft)	365		95	155		145						
Base Capacity (vph)	215	1812	878	215	1812	878	656	496		363	496	519
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.39	0.81	0.01	0.03	0.93	0.04	0.00	0.01		0.04	0.00	0.10

Intersection Summary

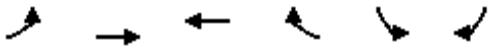
Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 65
Control Type: Pretimed
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 21.9 Intersection LOS: C
Intersection Capacity Utilization 61.7% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Convention Center Access & Tasman Dr





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1373	1397	247	0	191
Future Volume (vph)	0	1373	1397	247	0	191
Ideal Flow (vphpl)	1900	2040	2040	2100	1900	2063
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	3800	3800	1750	0	1750
Flt Permitted						
Satd. Flow (perm)	0	3800	3800	1750	0	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				268		58
Link Speed (mph)		30	30		30	
Link Distance (ft)		936	844		454	
Travel Time (s)		21.3	19.2		10.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1492	1518	268	0	208
Turn Type		NA	NA	Perm		Prot
Protected Phases		4	8			7
Permitted Phases				8		
Detector Phase		4	8	8		7
Switch Phase						
Minimum Initial (s)		4.0	4.0	4.0		4.0
Minimum Split (s)		20.0	20.0	20.0		11.0
Total Split (s)		65.0	48.0	48.0		17.0
Total Split (%)		100.0%	73.8%	73.8%		26.2%
Yellow Time (s)		3.5	3.5	3.5		3.5
All-Red Time (s)		0.5	0.5	0.5		0.5
Lost Time Adjust (s)		-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)		3.0	3.0	3.0		3.0
Lead/Lag			Lag	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes
Recall Mode		C-Max	C-Max	C-Max		None
Act Effct Green (s)		65.0	47.6	47.6		11.4
Actuated g/C Ratio		1.00	0.73	0.73		0.18



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.39	0.55	0.20		0.59
Control Delay		0.3	5.1	0.9		24.2
Queue Delay		0.0	0.0	0.0		0.0
Total Delay		0.3	5.1	0.9		24.2
LOS		A	A	A		C
Approach Delay		0.3	4.5		24.2	
Approach LOS		A	A		C	
Queue Length 50th (ft)		0	111	0		54
Queue Length 95th (ft)		0	174	16		110
Internal Link Dist (ft)		856	764		374	
Turn Bay Length (ft)						
Base Capacity (vph)		3800	2784	1354		422
Starvation Cap Reductn		0	0	0		0
Spillback Cap Reductn		0	0	0		0
Storage Cap Reductn		0	0	0		0
Reduced v/c Ratio		0.39	0.55	0.20		0.49

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 3.9		Intersection LOS: A	
Intersection Capacity Utilization 53.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 10: Tasman Dr & Avenue A

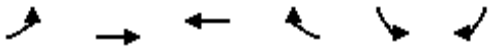
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	1211	7	6	1671	444	9	0	4	287	0	83
Future Volume (vph)	136	1211	7	6	1671	444	9	0	4	287	0	83
Ideal Flow (vphpl)	1744	1989	1900	1879	2040	2100	1900	1923	1900	1978	2034	2100
Storage Length (ft)	185		0	195		175	0		0	0		0
Storage Lanes	2		0	1		1	0		0	1		1
Taper Length (ft)	115			75			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.999				0.850		0.961				0.850
Flt Protected	0.950			0.950				0.966		0.950	0.950	
Satd. Flow (prot)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Flt Permitted	0.950			0.950				0.966		0.950	0.950	
Satd. Flow (perm)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				269		98				98
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		844			667			330			406	
Travel Time (s)		19.2			15.2			7.5			9.2	
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
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	148	1324	0	7	1816	483	0	14	0	156	156	90
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	20.0		11.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0
Total Split (s)	11.0	49.0		11.0	49.0	49.0	20.0	20.0		20.0	20.0	20.0
Total Split (%)	11.0%	49.0%		11.0%	49.0%	49.0%	20.0%	20.0%		20.0%	20.0%	20.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Act Effct Green (s)	8.0	55.4		6.9	46.3	46.3		6.5		13.0	13.0	13.0
Actuated g/C Ratio	0.10	0.71		0.09	0.59	0.59		0.08		0.17	0.17	0.17
v/c Ratio	0.46	0.50		0.05	0.81	0.42		0.06		0.53	0.52	0.24
Control Delay	39.6	7.9		36.0	17.5	5.5		0.5		37.3	36.7	7.8
Queue Delay	0.0	0.0		0.0	0.2	0.0		0.0		0.0	0.0	0.0
Total Delay	39.6	7.9		36.0	17.7	5.5		0.5		37.3	36.7	7.8
LOS	D	A		D	B	A		A		D	D	A
Approach Delay		11.1			15.2			0.5			30.5	
Approach LOS		B			B			A			C	
Queue Length 50th (ft)	34	97		3	305	41		0		71	71	0
Queue Length 95th (ft)	72	357		17	#662	135		0		146	145	35
Internal Link Dist (ft)		764			587			250			326	
Turn Bay Length (ft)	185			195		175						
Base Capacity (vph)	325	2628		180	2255	1148		460		383	394	460
Starvation Cap Reductn	0	0		0	56	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.46	0.50		0.04	0.83	0.42		0.03		0.41	0.40	0.20

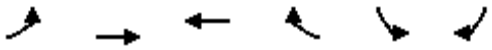
Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 78			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 15.2		Intersection LOS: B	
Intersection Capacity Utilization 67.0%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Tasman Dr & Centennial Blvd



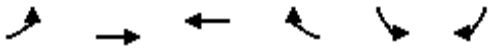
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	735	1903	428	0	96
Future Volume (vph)	0	735	1903	428	0	96
Ideal Flow (vphpl)	1900	2040	2040	2100	1900	2064
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	3800	3800	1750	0	1750
Flt Permitted						
Satd. Flow (perm)	0	3800	3800	1750	0	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				465		18
Link Speed (mph)		30	30		30	
Link Distance (ft)		667	362		382	
Travel Time (s)		15.2	8.2		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	799	2068	465	0	104
Turn Type		NA	NA	Perm		Prot
Protected Phases		4	8			7
Permitted Phases				8		
Detector Phase		4	8	8		7
Switch Phase						
Minimum Initial (s)		4.0	4.0	4.0		4.0
Minimum Split (s)		20.0	20.0	20.0		11.0
Total Split (s)		45.0	34.0	34.0		11.0
Total Split (%)		100.0%	75.6%	75.6%		24.4%
Yellow Time (s)		3.5	3.5	3.5		3.5
All-Red Time (s)		0.5	0.5	0.5		0.5
Lost Time Adjust (s)		-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)		3.0	3.0	3.0		3.0
Lead/Lag			Lag	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes
Recall Mode		None	None	None		None
Act Effct Green (s)		40.5	32.9	32.9		7.6
Actuated g/C Ratio		1.00	0.81	0.81		0.19



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.21	0.67	0.31		0.30
Control Delay		0.1	5.1	0.9		16.4
Queue Delay		0.0	0.0	0.0		0.0
Total Delay		0.1	5.1	0.9		16.4
LOS		A	A	A		B
Approach Delay		0.1	4.3		16.4	
Approach LOS		A	A		B	
Queue Length 50th (ft)		0	134	0		20
Queue Length 95th (ft)		0	205	15		52
Internal Link Dist (ft)		587	282		302	
Turn Bay Length (ft)						
Base Capacity (vph)		3800	3031	1490		366
Starvation Cap Reductn		0	0	0		0
Spillback Cap Reductn		0	0	0		0
Storage Cap Reductn		0	0	0		0
Reduced v/c Ratio		0.21	0.68	0.31		0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 40.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 3.7		Intersection LOS: A	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 12: Tasman Dr & Avenue C



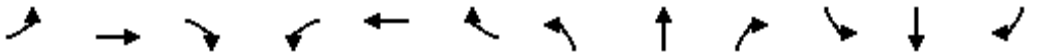
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	95	544	2050	225	99	241
Future Volume (vph)	95	544	2050	225	99	241
Ideal Flow (vphpl)	1744	2040	2040	2100	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	170			120	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	75				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	3800	3800	1750	3151	1750
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	3800	3800	1750	3151	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				245		7
Link Speed (mph)		30	30		30	
Link Distance (ft)		860	819		532	
Travel Time (s)		19.5	18.6		12.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	103	591	2228	245	108	262
Turn Type	Prot	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	7	4	8	1	1	7
Permitted Phases				8		1
Detector Phase	7	4	8	1	1	7
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	11.0	11.0
Total Split (s)	11.0	54.0	43.0	11.0	11.0	11.0
Total Split (%)	16.9%	83.1%	66.2%	16.9%	16.9%	16.9%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	7.6	50.6	40.0	50.7	7.7	18.3
Actuated g/C Ratio	0.12	0.79	0.62	0.79	0.12	0.28

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio	0.28	0.20	0.94	0.17	0.29	0.52
Control Delay	28.0	1.9	22.1	0.5	28.2	23.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	1.9	22.1	0.5	28.2	23.1
LOS	C	A	C	A	C	C
Approach Delay		5.8	20.0		24.6	
Approach LOS		A	B		C	
Queue Length 50th (ft)	19	20	375	0	20	83
Queue Length 95th (ft)	39	29	#605	9	41	148
Internal Link Dist (ft)		780	739		452	
Turn Bay Length (ft)	170			120		
Base Capacity (vph)	391	3012	2363	1438	391	513
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	0.26	0.20	0.94	0.17	0.28	0.51

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 64.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 17.7		Intersection LOS: B	
Intersection Capacity Utilization 72.9%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Tasman Dr & Calle Del Sol



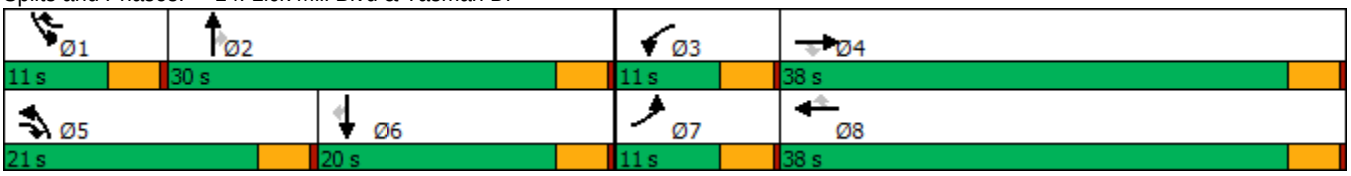
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	472	162	132	1478	102	610	76	335	27	31	62
Future Volume (vph)	53	472	162	132	1478	102	610	76	335	27	31	62
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	1938	2100	1744	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	145		345	160		110	0		100	0		25
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			65			60			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			109			364			158
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		819			593			379			387	
Travel Time (s)		18.6			13.5			8.6			8.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	513	176	143	1607	111	663	83	364	29	34	67
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	11.0	38.0	21.0	11.0	38.0	11.0	21.0	30.0	30.0	11.0	20.0	20.0
Total Split (%)	12.2%	42.2%	23.3%	12.2%	42.2%	12.2%	23.3%	33.3%	33.3%	12.2%	22.2%	22.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	7.7	32.7	53.8	7.9	35.1	45.4	18.0	29.9	29.9	7.3	17.0	17.0
Actuated g/C Ratio	0.09	0.37	0.61	0.09	0.40	0.52	0.21	0.34	0.34	0.08	0.19	0.19

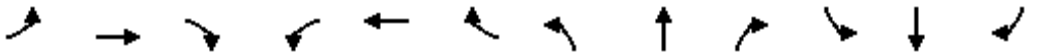
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.38	0.36	0.15	0.50	1.06	0.12	1.02	0.13	0.44	0.11	0.09	0.14
Control Delay	46.4	20.6	1.5	45.5	68.2	2.8	78.3	23.5	4.6	39.1	31.0	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.4	20.6	1.5	45.5	68.2	2.8	78.3	23.5	4.6	39.1	31.0	0.6
LOS	D	C	A	D	E	A	E	C	A	D	C	A
Approach Delay		18.1			62.5			50.0			17.2	
Approach LOS		B			E			D			B	
Queue Length 50th (ft)	32	106	0	40	~546	1	~214	34	0	8	16	0
Queue Length 95th (ft)	70	146	22	70	#681	25	#322	69	61	21	42	0
Internal Link Dist (ft)		739			513			299			307	
Turn Bay Length (ft)	145		345	160		110			100			25
Base Capacity (vph)	159	1518	1140	288	1518	970	647	648	836	288	368	466
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.34	0.15	0.50	1.06	0.11	1.02	0.13	0.44	0.10	0.09	0.14

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 87.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 48.8 Intersection LOS: D
Intersection Capacity Utilization 77.0% ICU Level of Service D
Analysis Period (min) 15
~ 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.

Splits and Phases: 14: Lick Mill Blvd & Tasman Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1656	68	145	444	227	0	0	99	424
Future Volume (vph)	0	0	0	1656	68	145	444	227	0	0	99	424
Ideal Flow (vphpl)	1900	1900	1900	1859	2106	2148	1744	2040	1900	1900	2263	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		460	0		0	0		0
Storage Lanes	0		0	2		2	2		0	0		0
Taper Length (ft)	25			300			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.88	0.97	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt						0.850					0.878	
Flt Protected				0.950	0.958		0.950					
Satd. Flow (prot)	0	0	0	3151	1800	3150	3151	3800	0	0	3701	0
Flt Permitted				0.950	0.958		0.950					
Satd. Flow (perm)	0	0	0	3151	1800	3150	3151	3800	0	0	3701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						158					461	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1157			1153			405			238	
Travel Time (s)		26.3			26.2			9.2			5.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				31%								
Lane Group Flow (vph)	0	0	0	1242	632	158	483	247	0	0	569	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0	4.0	4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0	20.0	11.0	20.0			20.0	
Total Split (s)				33.0	33.0	33.0	11.0	32.0			21.0	
Total Split (%)				50.8%	50.8%	50.8%	16.9%	49.2%			32.3%	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				-1.0	-1.0	-1.0	-1.0	-1.0			-1.0	
Total Lost Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				None	None	None	None	C-Max			C-Max	
Act Effct Green (s)				30.0	30.0	30.0	8.0	29.0			18.0	
Actuated g/C Ratio				0.46	0.46	0.46	0.12	0.45			0.28	

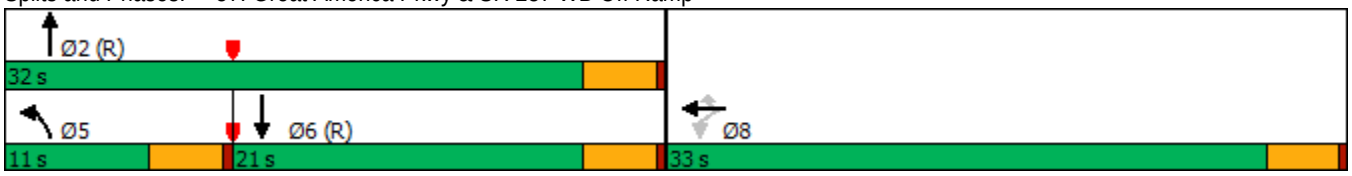
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.85	0.76	0.10	1.25	0.15			0.42	
Control Delay				23.2	22.2	2.2	161.7	15.5			5.2	
Queue Delay				0.1	0.0	0.0	0.0	0.0			0.0	
Total Delay				23.3	22.3	2.2	161.7	15.5			5.3	
LOS				C	C	A	F	B			A	
Approach Delay					21.3			112.2			5.3	
Approach LOS					C			F			A	
Queue Length 50th (ft)				226	215	0	~133	33			16	
Queue Length 95th (ft)				#362	#365	14	#223	84			51	
Internal Link Dist (ft)		1077			1073			325			158	
Turn Bay Length (ft)				150		460						
Base Capacity (vph)				1454	830	1538	387	1695			1358	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				7	4	0	0	0			47	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				0.86	0.77	0.10	1.25	0.15			0.43	

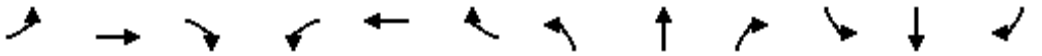
Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 38.5 Intersection LOS: D
Intersection Capacity Utilization 71.3% ICU Level of Service C
Analysis Period (min) 15

~ 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.

Splits and Phases: 57: Great America Pkwy & SR 237 WB Off Ramp





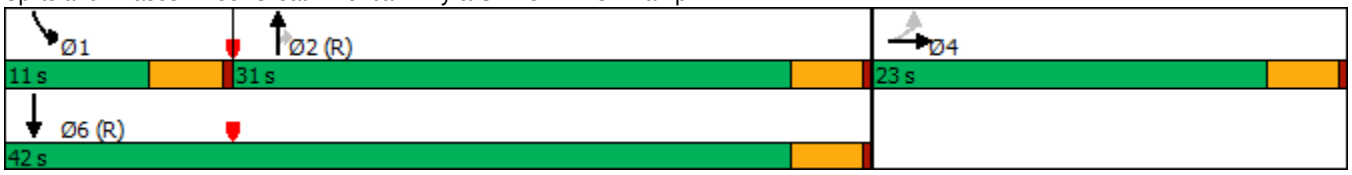
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	0	1433	0	0	0	0	514	587	23	1730	0
Future Volume (vph)	164	0	1433	0	0	0	0	514	587	23	1730	0
Ideal Flow (vphpl)	1900	1933	2148	1900	1900	1900	1900	2341	2442	1879	2130	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		240	0		0	0		0	0		0
Storage Lanes	0		2	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor												
Frt			0.850					0.946	0.850			
Flt Protected		0.950								0.950		
Satd. Flow (prot)	0	1800	3150	0	0	0	0	5602	1750	1750	5701	0
Flt Permitted		0.950								0.950		
Satd. Flow (perm)	0	1800	3150	0	0	0	0	5602	1750	1750	5701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			705					280	319			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			539			526			405	
Travel Time (s)		13.8			12.3			12.0			9.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	178	1558	0	0	0	0	878	319	25	1880	0
Turn Type	Perm	NA	Free					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		Free						2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0	20.0	11.0	20.0	
Total Split (s)	23.0	23.0						31.0	31.0	11.0	42.0	
Total Split (%)	35.4%	35.4%						47.7%	47.7%	16.9%	64.6%	
Yellow Time (s)	3.5	3.5						3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5						0.5	0.5	0.5	0.5	
Lost Time Adjust (s)		-1.0						-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		3.0						3.0	3.0	3.0	3.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Act Effct Green (s)		12.7	65.0					41.7	41.7	7.5	46.3	
Actuated g/C Ratio		0.20	1.00					0.64	0.64	0.12	0.71	

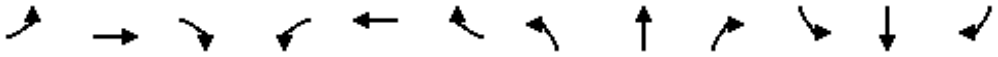
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.51	0.49					0.24	0.26	0.12	0.46	
Control Delay		27.8	0.6					0.9	0.6	11.3	14.2	
Queue Delay		0.0	0.0					0.0	0.0	0.0	0.6	
Total Delay		27.8	0.6					0.9	0.6	11.3	14.8	
LOS		C	A					A	A	B	B	
Approach Delay		3.4						0.8			14.8	
Approach LOS		A						A			B	
Queue Length 50th (ft)		64	0					0	0	6	300	
Queue Length 95th (ft)		108	0					0	0	m8	346	
Internal Link Dist (ft)		529			459			446			325	
Turn Bay Length (ft)			240									
Base Capacity (vph)		553	3150					3697	1238	220	4064	
Starvation Cap Reductn		0	0					0	0	0	1622	
Spillback Cap Reductn		0	0					0	0	0	0	
Storage Cap Reductn		0	0					0	0	0	0	
Reduced v/c Ratio		0.32	0.49					0.24	0.26	0.11	0.77	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 71.3%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 58: Great America Pkwy & SR 237 EB Off Ramp



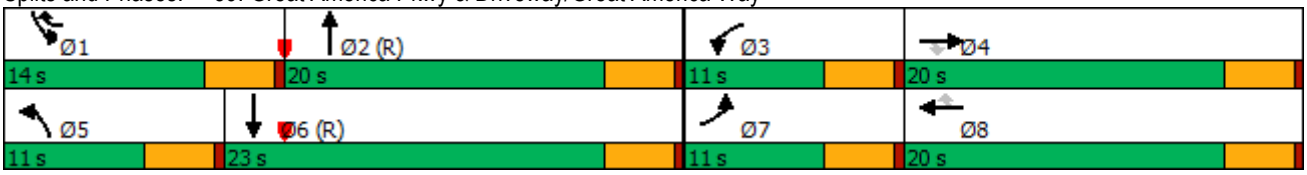


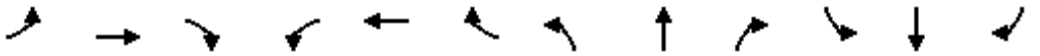
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	3	0	176	57	202	36	891	80	436	2625	68
Future Volume (vph)	2	3	0	176	57	202	36	891	80	436	2625	68
Ideal Flow (vphpl)	1879	1938	1785	1967	2406	2148	1879	2118	1900	1744	2101	1900
Storage Length (ft)	60		60	115		100	50		0	145		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			65			115			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Frt						0.850		0.988			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	1832	2359	3150	1750	5601	0	3151	5601	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	1832	2359	3150	1750	5601	0	3151	5601	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						220		22			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		343			1935			1191			526	
Travel Time (s)		7.8			44.0			27.1			12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	3	0	191	62	220	39	968	87	474	2853	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	3	0	191	62	220	39	1055	0	474	2927	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases			4			8						
Detector Phase	7	4	4	3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	11.0	11.0	20.0		11.0	20.0	
Total Split (s)	11.0	20.0	20.0	11.0	20.0	14.0	11.0	20.0		14.0	23.0	
Total Split (%)	16.9%	30.8%	30.8%	16.9%	30.8%	21.5%	16.9%	30.8%		21.5%	35.4%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	6.6	7.1		8.2	8.6	28.1	8.0	28.9		16.5	43.4	
Actuated g/C Ratio	0.10	0.11		0.13	0.13	0.43	0.12	0.44		0.25	0.67	
v/c Ratio	0.01	0.01		0.83	0.20	0.15	0.18	0.42		0.59	0.78	
Control Delay	26.5	25.0		58.8	26.4	1.8	24.9	15.8		31.0	11.3	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	26.5	25.0		58.8	26.4	1.8	24.9	15.8		31.0	11.3	
LOS	C	C		E	C	A	C	B		C	B	
Approach Delay		25.6			28.0			16.1			14.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	1	1		75	22	0	16	74		99	47	
Queue Length 95th (ft)	6	8		#179	51	15	33	213		141	#639	
Internal Link Dist (ft)		263			1855			1111			446	
Turn Bay Length (ft)	60			115		100	50			145		
Base Capacity (vph)	215	496		231	616	1487	230	2500		799	3745	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.01	0.01		0.83	0.10	0.15	0.17	0.42		0.59	0.78	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 15.9		Intersection LOS: B	
Intersection Capacity Utilization 76.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 59: Great America Pkwy & Driveway/Great America Way





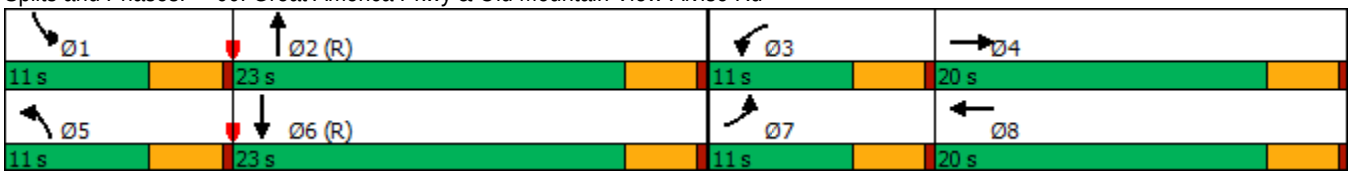
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	8	43	10	4	5	138	921	85	36	2347	423
Future Volume (vph)	75	8	43	10	4	5	138	921	85	36	2347	423
Ideal Flow (vphpl)	1744	2101	1900	1879	2002	2148	1879	2120	2442	1879	2142	2442
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		0	80		0	150		0	110		0
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	25			65			25			90		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.874			0.917			0.987			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	1800	0	1750	1800	0	1750	5600	0	1750	5601	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	1800	0	1750	1800	0	1750	5600	0	1750	5601	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		47			5			24			57	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			381			446			1191	
Travel Time (s)		17.4			8.7			10.1			27.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	56	0	11	9	0	150	1093	0	39	3011	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	11.0	20.0		11.0	20.0		11.0	23.0		11.0	23.0	
Total Split (%)	16.9%	30.8%		16.9%	30.8%		16.9%	35.4%		16.9%	35.4%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	7.6	7.8		7.0	7.2		12.1	46.5		8.0	35.8	
Actuated g/C Ratio	0.12	0.12		0.11	0.11		0.19	0.72		0.12	0.55	

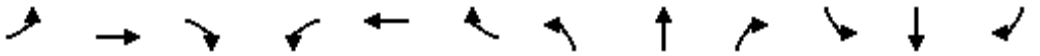
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.22	0.22		0.06	0.04		0.46	0.27		0.18	0.97	
Control Delay	27.5	12.8		26.4	19.9		24.0	9.5		17.6	33.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.5	12.8		26.4	19.9		24.0	9.5		17.6	33.0	
LOS	C	B		C	B		C	A		B	C	
Approach Delay		21.5			23.5			11.3			32.8	
Approach LOS		C			C			B			C	
Queue Length 50th (ft)	15	3		4	1		60	71		11	442	
Queue Length 95th (ft)	33	31		17	13		m85	135		m21	#731	
Internal Link Dist (ft)		684			301			366			1111	
Turn Bay Length (ft)	130			80			150			110		
Base Capacity (vph)	387	505		215	474		325	4014		230	3108	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.21	0.11		0.05	0.02		0.46	0.27		0.17	0.97	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 26.4 Intersection LOS: C
Intersection Capacity Utilization 75.3% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 60: Great America Pkwy & Old Mountain View-Alviso Rd





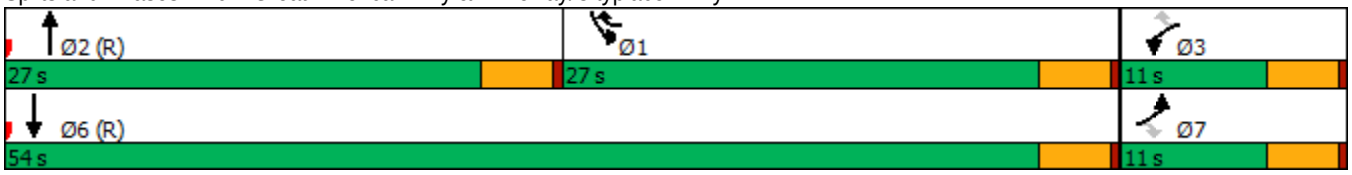
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	96	0	130	0	1172	575	733	1909	0
Future Volume (vph)	0	0	0	96	0	130	0	1172	575	733	1909	0
Ideal Flow (vphpl)	1785	1900	1785	1744	1900	2148	1900	2200	1900	1744	2093	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		200	150		0
Storage Lanes	1		1	2		2	0		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Ped Bike Factor												
Frt						0.850		0.951				
Flt Protected				0.950						0.950		
Satd. Flow (prot)	1750	0	1750	3151	0	3150	0	5600	0	3151	5602	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	1750	0	1750	3151	0	3150	0	5600	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						17		216				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		387			2577			827			446	
Travel Time (s)		8.8			58.6			18.8			10.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	104	0	141	0	1899	0	797	2075	0
Turn Type	Prot		Perm	Prot		pm+ov		NA		Prot	NA	
Protected Phases	7			3		1		2		1	6	
Permitted Phases			7			3						
Detector Phase	7		7	3		1		2		1	6	
Switch Phase												
Minimum Initial (s)	4.0		4.0	4.0		4.0		4.0		4.0	4.0	
Minimum Split (s)	11.0		11.0	11.0		11.0		20.0		11.0	20.0	
Total Split (s)	11.0		11.0	11.0		27.0		27.0		27.0	54.0	
Total Split (%)	16.9%		16.9%	16.9%		41.5%		41.5%		41.5%	83.1%	
Yellow Time (s)	3.5		3.5	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5		0.5		0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0		3.0	3.0		3.0		3.0		3.0	3.0	
Lead/Lag						Lag		Lead		Lag		
Lead-Lag Optimize?						Yes		Yes		Yes		
Recall Mode	None		None	None		None		C-Max		None	C-Max	
Act Effct Green (s)				7.7		32.7		26.3		24.0	53.9	
Actuated g/C Ratio				0.12		0.50		0.40		0.37	0.83	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.28		0.09		0.79		0.69	0.45	
Control Delay				28.1		6.7		24.3		22.9	1.9	
Queue Delay				0.0		0.0		0.0		0.0	0.4	
Total Delay				28.1		6.7		24.3		22.9	2.3	
LOS				C		A		C		C	A	
Approach Delay					15.8			24.3			8.1	
Approach LOS					B			C			A	
Queue Length 50th (ft)				19		12		228		180	9	
Queue Length 95th (ft)				40		24		284		m189	m30	
Internal Link Dist (ft)		307			2497			747			366	
Turn Bay Length (ft)										150		
Base Capacity (vph)				387		1595		2390		1163	4642	
Starvation Cap Reductn				0		0		0		0	1765	
Spillback Cap Reductn				0		0		0		0	0	
Storage Cap Reductn				0		0		0		0	0	
Reduced v/c Ratio				0.27		0.09		0.79		0.69	0.72	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 66.8%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 61: Great America Pkwy & Driveway/Cityplace Pkwy

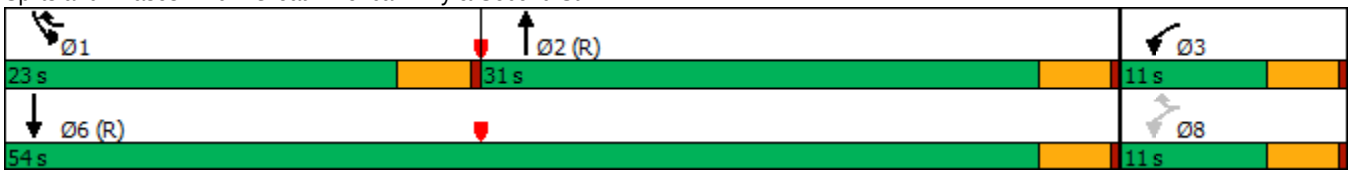


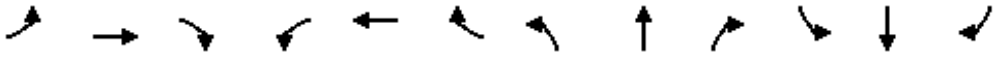
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	229	436	1311	518	806	1199	
Future Volume (vph)	229	436	1311	518	806	1199	
Ideal Flow (vphpl)	1744	2100	2184	1900	1744	2130	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%		0%			0%	
Storage Length (ft)	0	0		300	300		
Storage Lanes	2	1		0	2		
Taper Length (ft)	25				25		
Lane Util. Factor	0.97	1.00	0.91	0.91	0.97	0.91	
Ped Bike Factor							
Frt		0.850	0.958				
Flt Protected	0.950				0.950		
Satd. Flow (prot)	3151	1750	5600	0	3151	5701	
Flt Permitted	0.950				0.950		
Satd. Flow (perm)	3151	1750	5600	0	3151	5701	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		12	192				
Link Speed (mph)	30		30			30	
Link Distance (ft)	989		486			827	
Travel Time (s)	22.5		11.0			18.8	
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%		0%			0%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	249	474	1988	0	876	1303	
Turn Type	pm+pt	pm+ov	NA		Prot	NA	
Protected Phases	3	1	2		1	6	8
Permitted Phases	8	8					
Detector Phase	3	1	2		1	6	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0		11.0	20.0	11.0
Total Split (s)	11.0	23.0	31.0		23.0	54.0	11.0
Total Split (%)	16.9%	35.4%	47.7%		35.4%	83.1%	17%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0		3.0	3.0	
Lead/Lag		Lead	Lag		Lead		
Lead-Lag Optimize?		Yes	Yes		Yes		
Recall Mode	None	None	C-Max		None	C-Max	None
Act Effct Green (s)	8.0	31.0	28.0		20.0	51.0	
Actuated g/C Ratio	0.12	0.48	0.43		0.31	0.78	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
v/c Ratio	0.64	0.56	0.79		0.90	0.29	
Control Delay	35.8	15.1	13.1		34.1	5.1	
Queue Delay	0.0	0.0	0.0		0.0	0.0	
Total Delay	35.8	15.1	13.1		34.1	5.1	
LOS	D	B	B		C	A	
Approach Delay	22.2		13.1			16.8	
Approach LOS	C		B			B	
Queue Length 50th (ft)	49	123	295		201	84	
Queue Length 95th (ft)	#85	205	70		#291	149	
Internal Link Dist (ft)	909		406			747	
Turn Bay Length (ft)					300		
Base Capacity (vph)	387	840	2521		969	4473	
Starvation Cap Reductn	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	
Reduced v/c Ratio	0.64	0.56	0.79		0.90	0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 62: Great America Pkwy & Second St





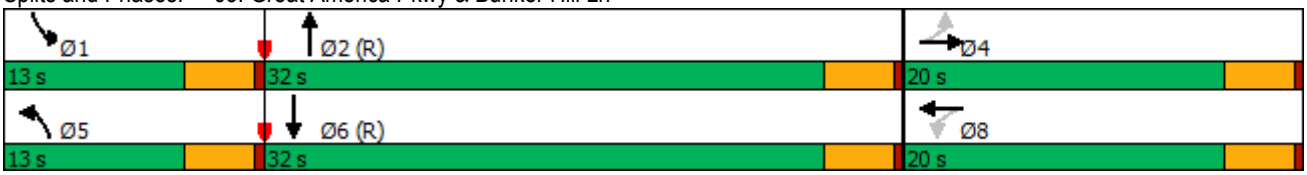
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	7	17	33	11	40	112	1621	169	107	948	145
Future Volume (vph)	50	7	17	33	11	40	112	1621	169	107	948	145
Ideal Flow (vphpl)	2065	2181	1900	1879	2250	1900	1879	2122	1900	1879	2135	1900
Storage Length (ft)	130		0	125		0	140		0	145		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			75			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.896			0.883			0.986			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1923	3640	0	1750	3701	0	1750	5600	0	1750	5600	0
Flt Permitted	0.719			0.739			0.950			0.950		
Satd. Flow (perm)	1456	3640	0	1361	3701	0	1750	5600	0	1750	5600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			43			35			57	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		838			526			856			486	
Travel Time (s)		19.0			12.0			19.5			11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	26	0	36	55	0	122	1946	0	116	1188	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		13.0	32.0		13.0	32.0	
Total Split (%)	30.8%	30.8%		30.8%	30.8%		20.0%	49.2%		20.0%	49.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	8.9	8.9		8.8	8.8		10.8	43.1		10.5	42.9	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.17	0.66		0.16	0.66	
v/c Ratio	0.27	0.05		0.20	0.10		0.42	0.52		0.41	0.32	
Control Delay	27.8	14.0		26.5	11.0		22.8	11.0		27.8	11.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.8	14.0		26.5	11.0		22.8	11.0		27.8	11.3	
LOS	C	B		C	B		C	B		C	B	
Approach Delay		23.3			17.1			11.7			12.8	
Approach LOS		C			B			B			B	
Queue Length 50th (ft)	20	1		13	2		52	132		40	89	
Queue Length 95th (ft)	47	10		35	15		m63	m172		m54	220	
Internal Link Dist (ft)		758			446			776			406	
Turn Bay Length (ft)	130			125			140			145		
Base Capacity (vph)	380	965		355	999		309	3726		305	3717	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	

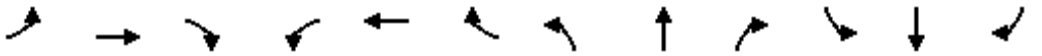
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.14	0.03		0.10	0.06		0.39	0.52		0.38	0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 56.6%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 63: Great America Pkwy & Bunker Hill Ln





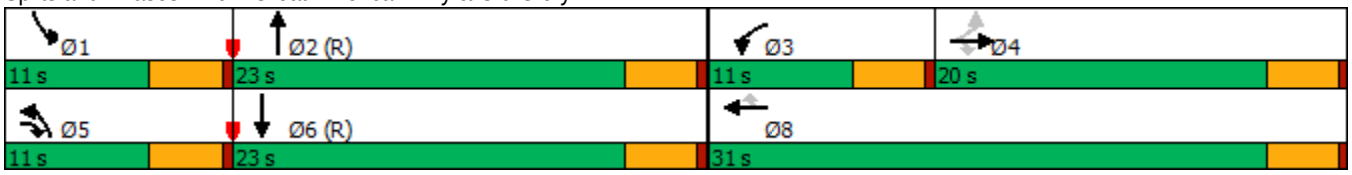
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	5	2	0	2	22	2519	2	22	1256	16
Future Volume (vph)	0	0	5	2	0	2	22	2519	2	22	1256	16
Ideal Flow (vphpl)	1900	1836	2100	1744	2373	2077	1744	2224	1900	1744	2134	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	90		0	220		0	245		0
Storage Lanes	0		1	2		2	2		0	2		0
Taper Length (ft)	25			70			85			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.91	0.91	0.97	0.86	0.86	0.97	0.91	0.91
Ped Bike Factor												
Frt			0.850		0.850	0.850					0.998	
Flt Protected				0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	1750	3151	1800	3150	3151	7501	0	3151	5700	0
Flt Permitted				0.950			0.950			0.950		
Satd. Flow (perm)	0	1800	1750	3151	1800	3150	3151	7501	0	3151	5700	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			289		294	535					3	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		491			565			1390			1278	
Travel Time (s)		11.2			12.8			31.6			29.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)						33%						
Lane Group Flow (vph)	0	0	5	2	1	1	24	2740	0	24	1382	0
Turn Type			pm+ov	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4			8						
Detector Phase	4	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0		11.0	20.0	
Total Split (s)	20.0	20.0	11.0	11.0	31.0	31.0	11.0	23.0		11.0	23.0	
Total Split (%)	30.8%	30.8%	16.9%	16.9%	47.7%	47.7%	16.9%	35.4%		16.9%	35.4%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lag	Lag	Lead	Lead			Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)			7.0	6.6	6.5	6.5	7.0	57.6		7.0	57.6	
Actuated g/C Ratio			0.11	0.10	0.10	0.10	0.11	0.89		0.11	0.89	

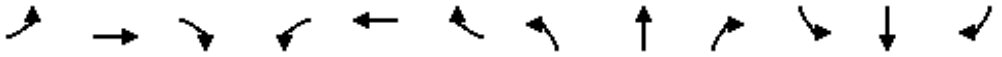
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio			0.01	0.01	0.00	0.00	0.07	0.41		0.07	0.27	
Control Delay			0.0	26.5	0.0	0.0	19.7	5.5		33.2	3.4	
Queue Delay			0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay			0.0	26.5	0.0	0.0	19.7	5.5		33.2	3.4	
LOS			A	C	A	A	B	A		C	A	
Approach Delay					13.3			5.7			3.9	
Approach LOS					B			A			A	
Queue Length 50th (ft)			0	0	0	0	4	0		5	0	
Queue Length 95th (ft)			0	3	0	0	m6	398		m4	m193	
Internal Link Dist (ft)		411			485			1310			1198	
Turn Bay Length (ft)				90			220			245		
Base Capacity (vph)			468	387	942	1661	387	6652		387	5055	
Starvation Cap Reductn			0	0	0	0	0	0		0	0	
Spillback Cap Reductn			0	0	0	0	0	0		0	0	
Storage Cap Reductn			0	0	0	0	0	0		0	0	
Reduced v/c Ratio			0.01	0.01	0.00	0.00	0.06	0.41		0.06	0.27	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 5.1		Intersection LOS: A	
Intersection Capacity Utilization 41.2%		ICU Level of Service A	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 64: Great America Pkwy & Old Glory Ln





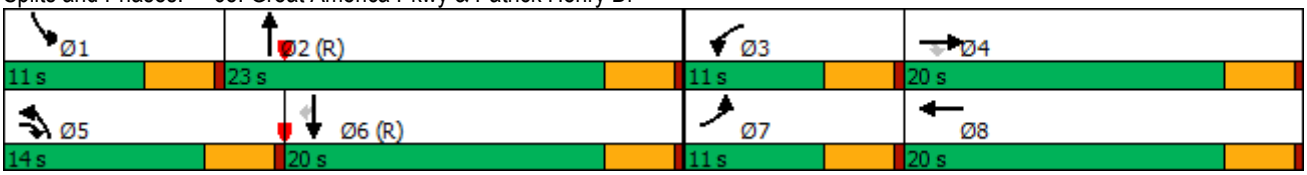
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	3	110	13	5	11	373	2556	76	29	1184	21
Future Volume (vph)	4	3	110	13	5	11	373	2556	76	29	1184	21
Ideal Flow (vphpl)	1879	1938	2100	1744	2054	1900	1744	2233	1900	1879	2130	2100
Storage Length (ft)	100		0	110		0	220		0	370		0
Storage Lanes	1		1	2		0	2		0	1		1
Taper Length (ft)	100			50			65			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.86	0.86	1.00	0.91	1.00
Frt			0.850		0.894			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	3151	1800	0	3151	7501	0	1750	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	3151	1800	0	3151	7501	0	1750	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		12			9				151
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1004			532			1324			1390	
Travel Time (s)		22.8			12.1			30.1			31.6	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	3	120	14	17	0	405	2861	0	32	1287	23
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0		11.0	20.0		11.0	20.0	20.0
Total Split (s)	11.0	20.0	14.0	11.0	20.0		14.0	23.0		11.0	20.0	20.0
Total Split (%)	16.9%	30.8%	21.5%	16.9%	30.8%		21.5%	35.4%		16.9%	30.8%	30.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	6.8	6.8	16.9	6.8	7.0		14.7	54.8		7.8	40.0	40.0
Actuated g/C Ratio	0.10	0.10	0.26	0.10	0.11		0.23	0.84		0.12	0.62	0.62
v/c Ratio	0.02	0.01	0.22	0.04	0.08		0.57	0.45		0.15	0.37	0.02
Control Delay	26.2	26.0	4.1	26.2	17.7		20.9	7.8		18.6	11.5	1.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	26.2	26.0	4.1	26.2	17.7		20.9	7.8		18.6	11.5	1.0
LOS	C	C	A	C	B		C	A		B	B	A
Approach Delay		5.3			21.5			9.4			11.5	
Approach LOS		A			C			A			B	
Queue Length 50th (ft)	1	1	0	2	2		54	0		9	58	0
Queue Length 95th (ft)	9	8	24	10	17		m71	m388		41	167	4
Internal Link Dist (ft)		924			452			1244			1310	
Turn Bay Length (ft)	100			110			220			370		
Base Capacity (vph)	215	496	543	387	479		713	6321		225	3510	1135
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

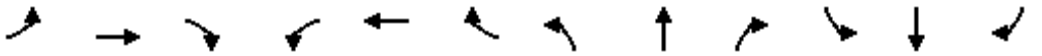
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.02	0.01	0.22	0.04	0.04		0.57	0.45		0.14	0.37	0.02

Intersection Summary	
Area Type:	Other
Cycle Length: 65	
Actuated Cycle Length: 65	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 10.0	Intersection LOS: A
Intersection Capacity Utilization 52.0%	ICU Level of Service A
Analysis Period (min) 15	

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 65: Great America Pkwy & Patrick Henry Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	305	89	103	468	271	470	470	2188	353	194	991	176
Future Volume (vph)	305	89	103	468	271	470	470	2188	353	194	991	176
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	2040	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	220		0	230		50	460		220	180		0
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			90			130			70		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	*0.95	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	7600	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	7600	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218			511			333			218
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		487			477			2128			1324	
Travel Time (s)		11.1			10.8			48.4			30.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	332	97	112	509	295	511	511	2378	384	211	1077	191
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free			Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	11.0	20.0		11.0	20.0		14.0	23.0		11.0	20.0	
Total Split (%)	16.9%	30.8%		16.9%	30.8%		21.5%	35.4%		16.9%	30.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	8.0	10.9	65.0	10.3	11.3	65.0	15.7	23.6	65.0	10.1	18.0	65.0
Actuated g/C Ratio	0.12	0.17	1.00	0.16	0.17	1.00	0.24	0.36	1.00	0.16	0.28	1.00

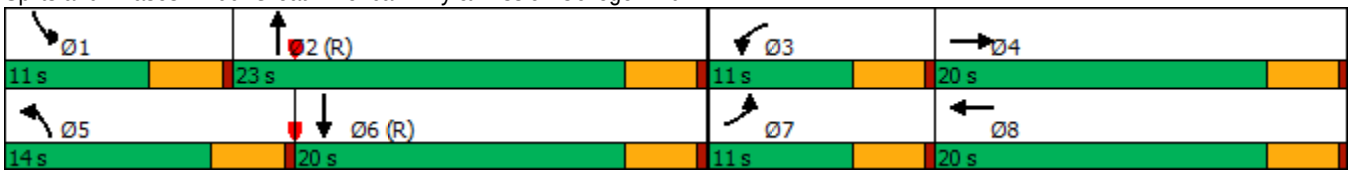
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.54	0.15	0.06	1.02	0.45	0.29	0.67	0.86	0.22	0.43	0.68	0.11
Control Delay	293.0	22.5	0.1	80.3	25.9	0.4	26.0	19.0	0.2	17.5	31.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	293.0	22.5	0.1	80.3	25.9	0.4	26.0	19.0	0.2	17.5	31.2	0.1
LOS	F	C	A	F	C	A	C	B	A	B	C	A
Approach Delay		183.8			37.1			17.9			25.2	
Approach LOS		F			D			B			C	
Queue Length 50th (ft)	~190	17	0	~137	55	0	75	180	0	36	152	0
Queue Length 95th (ft)	#333	34	0	#224	85	0	m118	#328	m0	74	216	0
Internal Link Dist (ft)		407			397			2048			1244	
Turn Bay Length (ft)	220			230		50	460		220	180		
Base Capacity (vph)	215	993	1750	500	993	1750	759	2754	1750	492	1582	1750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.54	0.10	0.06	1.02	0.30	0.29	0.67	0.86	0.22	0.43	0.68	0.11

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 36.9 Intersection LOS: D
Intersection Capacity Utilization 73.0% ICU Level of Service C
Analysis Period (min) 15

* User Entered Value
~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 66: Great America Pkwy & Mission College Blvd



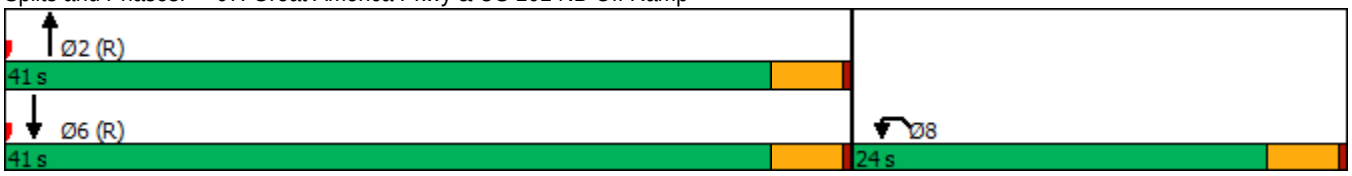
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	2130	0	0	1242	523	1363
Future Volume (vph)	2130	0	0	1242	523	1363
Ideal Flow (vphpl)	2130	1900	1900	2130	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	5701	0	0	5701	3151	1750
Flt Permitted					0.950	
Satd. Flow (perm)	5701	0	0	5701	3151	1750
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						386
Link Speed (mph)	30			30	30	
Link Distance (ft)	948			2128	559	
Travel Time (s)	21.5			48.4	12.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2315	0	0	1350	568	1482
Turn Type	NA			NA	Prot	Free
Protected Phases	2			6	8	
Permitted Phases						Free
Detector Phase	2			6	8	
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	20.0			20.0	11.0	
Total Split (s)	41.0			41.0	24.0	
Total Split (%)	63.1%			63.1%	36.9%	
Yellow Time (s)	3.5			3.5	3.5	
All-Red Time (s)	0.5			0.5	0.5	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	3.0			3.0	3.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	None	
Act Effct Green (s)	41.5			41.5	17.5	65.0
Actuated g/C Ratio	0.64			0.64	0.27	1.00

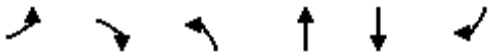
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
v/c Ratio	0.64			0.37	0.67	0.85
Control Delay	5.9			10.2	25.0	6.1
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	5.9			10.2	25.0	6.1
LOS	A			B	C	A
Approach Delay	5.9			10.2	11.3	
Approach LOS	A			B	B	
Queue Length 50th (ft)	98			147	102	0
Queue Length 95th (ft)	174			m236	139	#7
Internal Link Dist (ft)	868			2048	479	
Turn Bay Length (ft)						
Base Capacity (vph)	3636			3636	1018	1750
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.64			0.37	0.56	0.85

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 8.9		Intersection LOS: A	
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 67: Great America Pkwy & US 101 NB Off Ramp



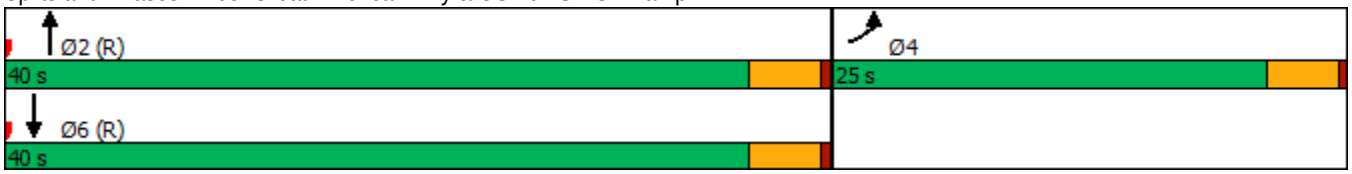


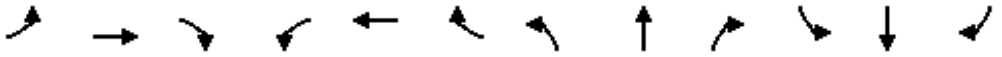
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	579	485	0	1708	1381	0
Future Volume (vph)	579	485	0	1708	1381	0
Ideal Flow (vphpl)	1744	2100	1900	2130	2130	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	2	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3151	1750	0	5701	5701	0
Flt Permitted	0.950					
Satd. Flow (perm)	3151	1750	0	5701	5701	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		421				
Link Speed (mph)	30			30	30	
Link Distance (ft)	423			319	948	
Travel Time (s)	9.6			7.3	21.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	629	527	0	1857	1501	0
Turn Type	Prot	Free		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		Free				
Detector Phase	4			2	6	
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	11.0			20.0	20.0	
Total Split (s)	25.0			40.0	40.0	
Total Split (%)	38.5%			61.5%	61.5%	
Yellow Time (s)	3.5			3.5	3.5	
All-Red Time (s)	0.5			0.5	0.5	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	3.0			3.0	3.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			Max	Max	
Act Effct Green (s)	22.0	65.0		37.0	37.0	
Actuated g/C Ratio	0.34	1.00		0.57	0.57	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.59	0.30		0.57	0.46	
Control Delay	20.5	0.4		9.8	2.0	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	20.5	0.4		9.8	2.0	
LOS	C	A		A	A	
Approach Delay	11.4			9.8	2.0	
Approach LOS	B			A	A	
Queue Length 50th (ft)	104	0		154	4	
Queue Length 95th (ft)	152	0		193	41	
Internal Link Dist (ft)	343			239	868	
Turn Bay Length (ft)						
Base Capacity (vph)	1066	1750		3245	3245	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.59	0.30		0.57	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 40			
Control Type: Pretimed			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 7.6		Intersection LOS: A	
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 68: Great America Pkwy & US 101 SB Off Ramp



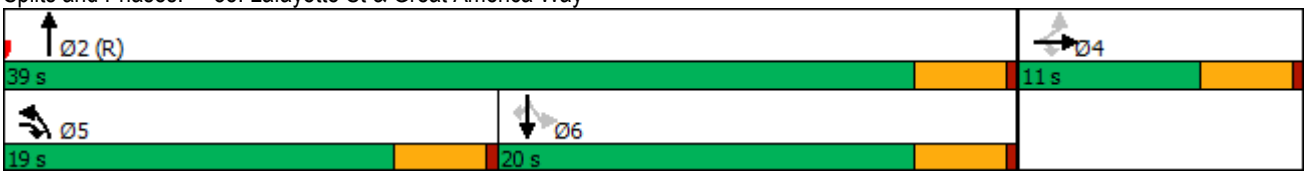


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	0	321	0	0	0	321	615	0	0	240	23
Future Volume (vph)	15	0	321	0	0	0	321	615	0	0	240	23
Ideal Flow (vphpl)	1879	1900	2148	1900	1900	1900	1879	2040	1900	1900	2013	1900
Storage Length (ft)	110		0	0		0	210		0	90		0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	35			25			85			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850									0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1750	1863	1790	0	0	0	1750	3800	0	1863	1974	1583
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1750	1863	1790	0	0	0	1750	3800	0	1863	1974	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			405									109
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1935			133			402			584	
Travel Time (s)		44.0			3.0			9.1			13.3	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	0	349	0	0	0	349	668	0	0	261	25
Turn Type	Perm		pm+ov				Prot	NA		Perm	NA	Perm
Protected Phases		4	5				5	2			6	
Permitted Phases	4		4							6		6
Detector Phase	4	4	5				5	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0				4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0				11.0	20.0		20.0	20.0	20.0
Total Split (s)	11.0	11.0	19.0				19.0	39.0		20.0	20.0	20.0
Total Split (%)	22.0%	22.0%	38.0%				38.0%	78.0%		40.0%	40.0%	40.0%
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5				0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0				-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Lead/Lag			Lead				Lead			Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Recall Mode	Min	Min	None				None	C-Max		None	None	None
Act Effct Green (s)	7.1		24.6				14.5	36.9			19.4	19.4
Actuated g/C Ratio	0.14		0.49				0.29	0.74			0.39	0.39
v/c Ratio	0.06		0.32				0.69	0.24			0.34	0.04
Control Delay	18.9		1.4				23.1	2.4			13.3	0.1
Queue Delay	0.0		0.0				0.0	0.0			0.0	0.0
Total Delay	18.9		1.4				23.1	2.4			13.3	0.1
LOS	B		A				C	A			B	A
Approach Delay		2.1						9.5			12.2	
Approach LOS		A						A			B	
Queue Length 50th (ft)	4		0				85	20			54	0
Queue Length 95th (ft)	17		19				156	36			106	0
Internal Link Dist (ft)		1855			53			322			504	
Turn Bay Length (ft)	110						210					
Base Capacity (vph)	280		1130				564	2807			767	682
Starvation Cap Reductn	0		0				0	0			0	0
Spillback Cap Reductn	0		0				0	0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0		0				0	0			0	0
Reduced v/c Ratio	0.06		0.31				0.62	0.24			0.34	0.04

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 8.3		Intersection LOS: A	
Intersection Capacity Utilization 43.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 85: Lafayette St & Great America Way

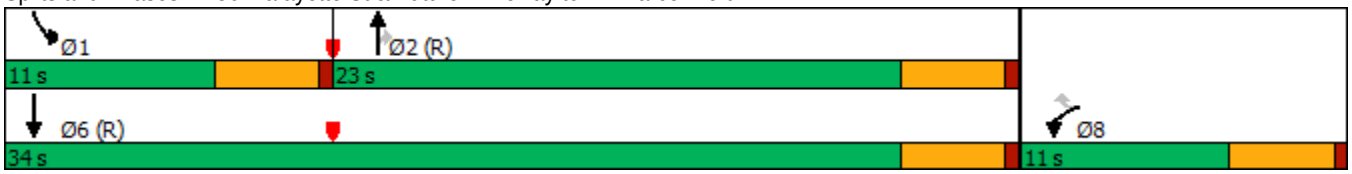


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	13	925	5	129	430
Future Volume (vph)	5	13	925	5	129	430
Ideal Flow (vphpl)	2059	2308	2040	2100	1879	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	200		400	75	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt	0.912	0.850		0.850		
Flt Protected	0.980				0.950	
Satd. Flow (prot)	3500	1750	3800	1750	1750	3800
Flt Permitted	0.980				0.950	
Satd. Flow (perm)	3500	1750	3800	1750	1750	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	7	7		5		
Link Speed (mph)	30		30			30
Link Distance (ft)	445		1011			402
Travel Time (s)	10.1		23.0			9.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	12	7	1005	5	140	467
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	23.0	23.0	11.0	34.0
Total Split (%)	24.4%	24.4%	51.1%	51.1%	24.4%	75.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	8.0	8.0	20.0	20.0	8.0	31.0
Actuated g/C Ratio	0.18	0.18	0.44	0.44	0.18	0.69

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.02	0.02	0.60	0.01	0.45	0.18
Control Delay	11.9	10.3	11.3	5.0	21.9	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	10.3	11.3	5.0	21.9	2.7
LOS	B	B	B	A	C	A
Approach Delay	11.3		11.2			7.1
Approach LOS	B		B			A
Queue Length 50th (ft)	0	0	94	0	33	15
Queue Length 95th (ft)	5	8	141	4	73	25
Internal Link Dist (ft)	365		931			322
Turn Bay Length (ft)		200		400	75	
Base Capacity (vph)	627	316	1688	780	311	2617
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	0.02	0.02	0.60	0.01	0.45	0.18

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 86: Lafayette St & Future Driveway to NE Parcel North



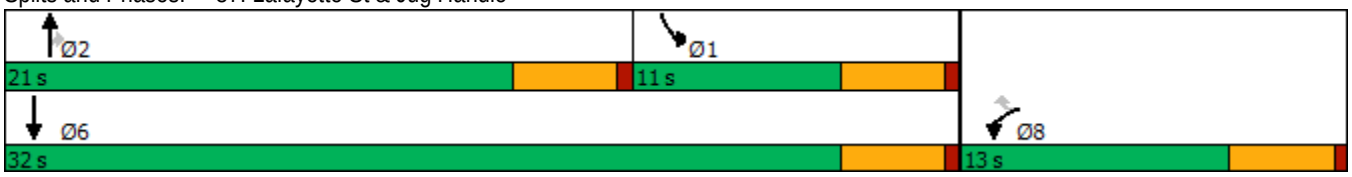
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	480	9	921	1011	68	367
Future Volume (vph)	480	9	921	1011	68	367
Ideal Flow (vphpl)	1744	2100	2040	2148	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		400	400	
Storage Lanes	2	1		2	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	0.88	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	3150	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	3150	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		10		1099		
Link Speed (mph)	30		30			30
Link Distance (ft)	767		890			1011
Travel Time (s)	17.4		20.2			23.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	522	10	1001	1099	74	399
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	13.0	13.0	21.0	21.0	11.0	32.0
Total Split (%)	28.9%	28.9%	46.7%	46.7%	24.4%	71.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	10.0	10.0	18.5	18.5	7.4	24.4
Actuated g/C Ratio	0.25	0.25	0.46	0.46	0.18	0.60

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.67	0.02	0.58	0.54	0.13	0.17
Control Delay	21.1	8.8	11.0	2.0	16.0	3.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.1	8.8	11.0	2.0	16.0	3.6
LOS	C	A	B	A	B	A
Approach Delay	20.8		6.3			5.5
Approach LOS	C		A			A
Queue Length 50th (ft)	63	0	101	0	8	16
Queue Length 95th (ft)	#124	9	155	30	21	27
Internal Link Dist (ft)	687		810			931
Turn Bay Length (ft)				400	400	
Base Capacity (vph)	791	446	1739	2037	632	2766
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	0.66	0.02	0.58	0.54	0.12	0.14

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 40.5			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 52.0%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 87: Lafayette St & Jug Handle



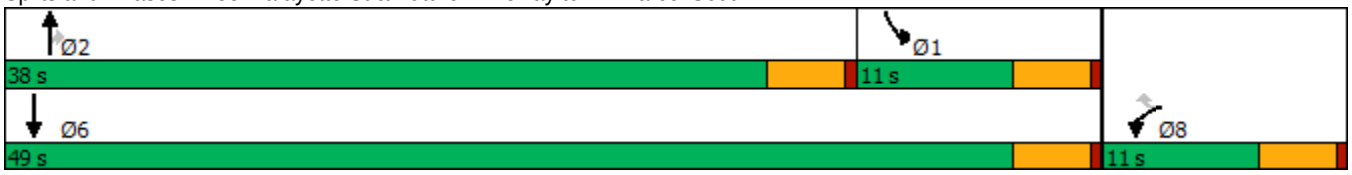
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	86	150	1782	377	301	547
Future Volume (vph)	86	150	1782	377	301	547
Ideal Flow (vphpl)	1744	2100	2040	2100	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		300	200	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	1750	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	1750	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		163		410		
Link Speed (mph)	30		30			30
Link Distance (ft)	625		897			890
Travel Time (s)	14.2		20.4			20.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	93	163	1937	410	327	595
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	38.0	38.0	11.0	49.0
Total Split (%)	18.3%	18.3%	63.3%	63.3%	18.3%	81.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effct Green (s)	7.6	7.6	36.1	36.1	8.0	47.8
Actuated g/C Ratio	0.13	0.13	0.62	0.62	0.14	0.82

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.23	0.44	0.83	0.33	0.76	0.19
Control Delay	24.9	9.2	14.2	1.5	38.7	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	9.2	14.2	1.5	38.7	1.9
LOS	C	A	B	A	D	A
Approach Delay	14.9		12.0			14.9
Approach LOS	B		B			B
Queue Length 50th (ft)	15	0	275	0	60	20
Queue Length 95th (ft)	34	45	#396	28	#117	30
Internal Link Dist (ft)	545		817			810
Turn Bay Length (ft)				300	200	
Base Capacity (vph)	430	379	2340	1235	430	3096
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	0.22	0.43	0.83	0.33	0.76	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 58.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 88: Lafayette St & Future Driveway to NE Parcel South



Intersection	
Int Delay, s/veh	21.3

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	3	257	10	2004	10	108	514
Future Vol, veh/h	3	257	10	2004	10	108	514
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	0	60	-	-	120	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	3	279	11	2178	11	117	559

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2720	1095	559	0	0	2189	0
Stage 1	2206	-	-	-	-	-	-
Stage 2	514	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	-	-	2.22	-
Pot Cap-1 Maneuver	17	~ 209	635	-	-	238	-
Stage 1	70	-	-	-	-	-	-
Stage 2	565	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	8	~ 209	635	-	-	238	-
Mov Cap-2 Maneuver	53	-	-	-	-	-	-
Stage 1	69	-	-	-	-	-	-
Stage 2	287	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	223.1	0.1	5.9
HCM LOS	F		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	635	-	-	53	209	238	-
HCM Lane V/C Ratio	0.017	-	-	0.062	1.337	0.493	-
HCM Control Delay (s)	10.8	-	-	77.3	224.8	34	-
HCM Lane LOS	B	-	-	F	F	D	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	15.5	2.5	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	91	172	10	1814	374	39	526
Future Volume (vph)	91	172	10	1814	374	39	526
Ideal Flow (vphpl)	1744	2100	1879	2040	2100	1879	2040
Storage Length (ft)	0	0	60		130	180	
Storage Lanes	2	1	1		1	1	
Taper Length (ft)	25		85			100	
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850			0.850		
Flt Protected	0.950		0.950			0.950	
Satd. Flow (prot)	3151	1750	1750	3800	1750	1750	3800
Flt Permitted	0.950		0.950			0.950	
Satd. Flow (perm)	3151	1750	1750	3800	1750	1750	3800
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		10			350		
Link Speed (mph)	30			30			30
Link Distance (ft)	834			760			479
Travel Time (s)	19.0			17.3			10.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	99	187	11	1972	407	42	572
Turn Type	Prot	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	7	1	5	2		1	6
Permitted Phases		7			2		
Minimum Split (s)	11.0	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	11.0	38.0	38.0	11.0	38.0
Total Split (%)	18.3%	18.3%	18.3%	63.3%	63.3%	18.3%	63.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag		Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	8.0	19.0	8.0	35.0	35.0	8.0	35.0
Actuated g/C Ratio	0.13	0.32	0.13	0.58	0.58	0.13	0.58
v/c Ratio	0.24	0.33	0.05	0.89	0.35	0.18	0.26
Control Delay	24.9	16.9	23.3	17.8	2.2	25.3	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.9	16.9	23.3	17.8	2.2	25.3	6.6
LOS	C	B	C	B	A	C	A
Approach Delay	19.6			15.2			7.9
Approach LOS	B			B			A
Queue Length 50th (ft)	17	48	4	285	8	14	47
Queue Length 95th (ft)	35	94	16	#430	38	m38	m69
Internal Link Dist (ft)	754			680			399
Turn Bay Length (ft)			60		130	180	
Base Capacity (vph)	420	561	233	2216	1166	233	2216
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.33	0.05	0.89	0.35	0.18	0.26

Intersection Summary

Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 63.0%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 90: Lafayette St & Calle De Luna

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	19	382	14	6	262	21
Future Volume (vph)	19	382	14	6	262	21
Ideal Flow (vphpl)	1938	2100	1900	1999	1879	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected				0.967	0.950	
Satd. Flow (prot)	1900	1750	0	3601	1750	1750
Flt Permitted				0.852	0.950	
Satd. Flow (perm)	1900	1750	0	3173	1750	1750
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		415				23
Link Speed (mph)	30			30	30	
Link Distance (ft)	834			429	532	
Travel Time (s)	19.0			9.8	12.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	415	0	22	285	23
Turn Type	NA	Perm	Perm	NA	Perm	Perm
Protected Phases	4			8		
Permitted Phases		4	8		2	2
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	35.0	35.0
Total Split (%)	36.4%	36.4%	36.4%	36.4%	63.6%	63.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0		3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	None	Min	Min
Act Effct Green (s)	8.2	8.2		8.2	11.3	11.3
Actuated g/C Ratio	0.32	0.32		0.32	0.44	0.44

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.03	0.49		0.02	0.37	0.03
Control Delay	6.5	3.3		6.4	6.9	2.9
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	6.5	3.3		6.4	6.9	2.9
LOS	A	A		A	A	A
Approach Delay	3.5			6.4	6.6	
Approach LOS	A			A	A	
Queue Length 50th (ft)	1	0		0	16	0
Queue Length 95th (ft)	10	31		5	63	6
Internal Link Dist (ft)	754			349	452	
Turn Bay Length (ft)						
Base Capacity (vph)	1297	1326		2166	1722	1722
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.02	0.31		0.01	0.17	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 25.7			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 4.8		Intersection LOS: A	
Intersection Capacity Utilization 31.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 114: Calle Del Sol & Calle De Luna

Background + Project Scheme C (Without Lick Mill Connection)

PM Peak Hour

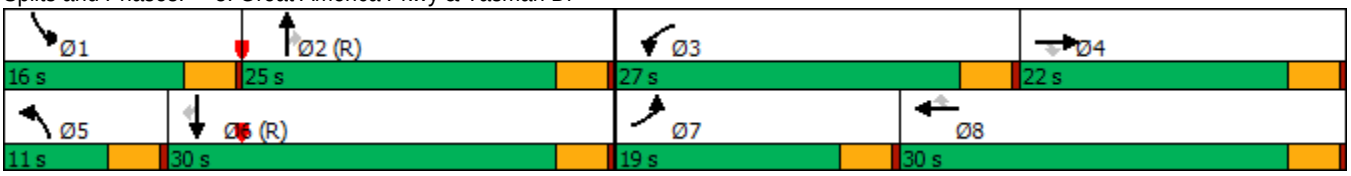
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	384	681	52	1075	722	263	84	1247	536	382	1382	362
Future Volume (vph)	384	681	52	1075	722	263	84	1247	536	382	1382	362
Ideal Flow (vphpl)	1744	2040	2100	1733	2040	2100	1744	2130	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	270		110	245		100	170		0	250		250
Storage Lanes	2		1	3		1	2		1	2		1
Taper Length (ft)	115			140			100			65		
Lane Util. Factor	0.97	0.95	1.00	0.94	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206			198			468			393
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			695			1240			859	
Travel Time (s)		17.5			15.8			28.2			19.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	417	740	57	1168	785	286	91	1355	583	415	1502	393
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	19.0	22.0	22.0	27.0	30.0	30.0	11.0	25.0	25.0	16.0	30.0	30.0
Total Split (%)	21.1%	24.4%	24.4%	30.0%	33.3%	33.3%	12.2%	27.8%	27.8%	17.8%	33.3%	33.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.5	19.0	19.0	24.0	27.5	27.5	7.8	22.0	22.0	13.0	29.2	29.2
Actuated g/C Ratio	0.17	0.21	0.21	0.27	0.31	0.31	0.09	0.24	0.24	0.14	0.32	0.32

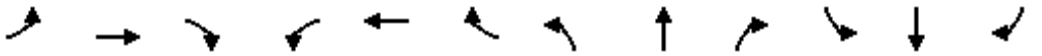
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.77	0.92	0.11	0.96	0.68	0.43	0.33	0.97	0.75	0.91	0.81	0.47
Control Delay	45.9	53.6	0.4	39.7	16.6	6.1	48.9	49.3	19.4	68.2	34.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	0.0	0.0	0.0
Total Delay	45.9	53.6	0.4	39.7	16.6	6.1	48.9	49.3	21.1	68.2	34.0	9.7
LOS	D	D	A	D	B	A	D	D	C	E	C	A
Approach Delay		48.4			27.3			41.2			36.0	
Approach LOS		D			C			D			D	
Queue Length 50th (ft)	117	218	0	203	179	49	28	270	84	131	225	20
Queue Length 95th (ft)	#170	#326	0	m#270	m187	m51	55	#397	202	m#210	#317	m122
Internal Link Dist (ft)		688			615			1160			779	
Turn Bay Length (ft)	270		110	245		100	170			250		250
Base Capacity (vph)	560	802	531	1213	1160	671	280	1393	781	455	1849	833
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	82	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.74	0.92	0.11	0.96	0.68	0.43	0.33	0.97	0.83	0.91	0.81	0.47

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 36.8 Intersection LOS: D
Intersection Capacity Utilization 86.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Great America Pkwy & Tasman Dr





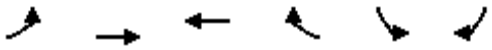
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	1755	1	43	2031	33	81	3	35	41	0	70
Future Volume (vph)	58	1755	1	43	2031	33	81	3	35	41	0	70
Ideal Flow (vphpl)	1879	2040	2100	1879	2040	2100	1744	1938	2100	1879	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	365		95	155		145	0		0	0		0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	70			75			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	1750	3800	1750	3151	1900	1750	1750	1900	1750
Flt Permitted	0.950			0.950			0.757			0.756		
Satd. Flow (perm)	1750	3800	1750	1750	3800	1750	2511	1900	1750	1393	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			61			61			61			130
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		695			946			235			146	
Travel Time (s)		15.8			21.5			5.3			3.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	1908	1	47	2208	36	88	3	38	45	0	76
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	11.0	59.0	59.0	11.0	59.0	59.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	12.2%	65.6%	65.6%	12.2%	65.6%	65.6%	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	8.0	56.0	56.0	8.0	56.0	56.0	17.0	17.0	17.0	17.0		17.0
Actuated g/C Ratio	0.09	0.62	0.62	0.09	0.62	0.62	0.19	0.19	0.19	0.19		0.19

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.41	0.81	0.00	0.30	0.93	0.03	0.19	0.01	0.10	0.17		0.17
Control Delay	41.1	23.7	0.0	41.2	13.5	0.3	31.9	30.0	4.5	32.6		2.2
Queue Delay	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	41.1	27.3	0.0	41.2	13.5	0.3	31.9	30.0	4.5	32.6		2.2
LOS	D	C	A	D	B	A	C	C	A	C		A
Approach Delay		27.7			13.8			23.8			13.5	
Approach LOS		C			B			C			B	
Queue Length 50th (ft)	29	609	0	26	347	0	21	1	0	22		0
Queue Length 95th (ft)	m39	m656	m0	m26	m341	m0	42	9	15	52		9
Internal Link Dist (ft)		615			866			155			66	
Turn Bay Length (ft)	365		95	155		145						
Base Capacity (vph)	155	2364	1111	155	2364	1111	474	358	380	263		436
Starvation Cap Reductn	0	364	0	0	0	0	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0		0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0		0
Reduced v/c Ratio	0.41	0.95	0.00	0.30	0.93	0.03	0.19	0.01	0.10	0.17		0.17

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 80
Control Type: Pretimed
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 20.2 Intersection LOS: C
Intersection Capacity Utilization 69.5% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Convention Center Access & Tasman Dr



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	1831	1011	50	0	1096
Future Volume (vph)	0	1831	1011	50	0	1096
Ideal Flow (vphpl)	1900	2040	2040	2100	1900	2063
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	3800	3800	1750	0	1750
Flt Permitted						
Satd. Flow (perm)	0	3800	3800	1750	0	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				54		7
Link Speed (mph)		30	30		30	
Link Distance (ft)		946	835		454	
Travel Time (s)		21.5	19.0		10.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1990	1099	54	0	1191
Turn Type		NA	NA	Perm		Prot
Protected Phases		4	8			7
Permitted Phases				8		
Detector Phase		4	8	8		7
Switch Phase						
Minimum Initial (s)		4.0	4.0	4.0		4.0
Minimum Split (s)		20.0	20.0	20.0		11.0
Total Split (s)		90.0	30.0	30.0		60.0
Total Split (%)		100.0%	33.3%	33.3%		66.7%
Yellow Time (s)		3.5	3.5	3.5		3.5
All-Red Time (s)		0.5	0.5	0.5		0.5
Lost Time Adjust (s)		-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)		3.0	3.0	3.0		3.0
Lead/Lag			Lag	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes
Recall Mode		C-Max	C-Max	C-Max		None
Act Effct Green (s)		90.0	27.0	27.0		57.0
Actuated g/C Ratio		1.00	0.30	0.30		0.63

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.52	0.96	0.10		1.07
Control Delay		0.5	51.4	7.3		67.8
Queue Delay		0.0	0.0	0.0		0.0
Total Delay		0.5	51.4	7.3		67.8
LOS		A	D	A		E
Approach Delay		0.5	49.4		67.8	
Approach LOS		A	D		E	
Queue Length 50th (ft)		0	322	0		~760
Queue Length 95th (ft)		0	#459	26		#1010
Internal Link Dist (ft)		866	755		374	
Turn Bay Length (ft)						
Base Capacity (vph)		3800	1140	562		1110
Starvation Cap Reductn		0	0	0		0
Spillback Cap Reductn		0	0	0		0
Storage Cap Reductn		0	0	0		0
Reduced v/c Ratio		0.52	0.96	0.10		1.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 32.0		Intersection LOS: C	
Intersection Capacity Utilization 95.2%		ICU Level of Service F	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 10: Tasman Dr & Avenue A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	1600	33	21	915	120	22	10	26	1016	1	100
Future Volume (vph)	98	1600	33	21	915	120	22	10	26	1016	1	100
Ideal Flow (vphpl)	1744	1993	1900	1879	2040	2100	1900	1936	1900	1978	2030	2100
Storage Length (ft)	185		0	195		175	0		0	0		0
Storage Lanes	2		0	1		1	0		0	1		1
Taper Length (ft)	115			75			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.997				0.850		0.940				0.850
Flt Protected	0.950			0.950				0.981		0.950	0.952	
Satd. Flow (prot)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Flt Permitted	0.950			0.950				0.981		0.950	0.952	
Satd. Flow (perm)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2				84		22				74
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		835			681			315			406	
Travel Time (s)		19.0			15.5			7.2			9.2	
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
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	107	1775	0	23	995	130	0	63	0	552	553	109
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	22.0		11.0	22.0	22.0	22.0	22.0		22.0	22.0	22.0
Total Split (s)	11.0	68.0		11.0	68.0	68.0	23.0	23.0		48.0	48.0	48.0
Total Split (%)	7.3%	45.3%		7.3%	45.3%	45.3%	15.3%	15.3%		32.0%	32.0%	32.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Act Effct Green (s)	8.1	65.4		7.5	60.6	60.6		9.8		45.3	45.3	45.3
Actuated g/C Ratio	0.06	0.49		0.06	0.45	0.45		0.07		0.34	0.34	0.34
v/c Ratio	0.56	0.98		0.23	0.58	0.15		0.43		0.93	0.91	0.17
Control Delay	75.5	51.1		69.7	29.0	9.2		51.6		67.5	63.4	13.9
Queue Delay	0.0	12.1		0.0	0.4	0.0		0.0		0.0	0.0	0.0
Total Delay	75.5	63.2		69.7	29.4	9.2		51.6		67.5	63.4	13.9
LOS	E	E		E	C	A		D		E	E	B
Approach Delay		63.9			28.0			51.6			60.8	
Approach LOS		E			C			D			E	
Queue Length 50th (ft)	50	~906		20	338	23		36		523	517	22
Queue Length 95th (ft)	85	#1101		52	428	64		85		#812	#796	70
Internal Link Dist (ft)		755			601			235			326	
Turn Bay Length (ft)	185			195		175						
Base Capacity (vph)	190	1813		105	1861	900		282		593	610	642
Starvation Cap Reductn	0	86		0	378	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0

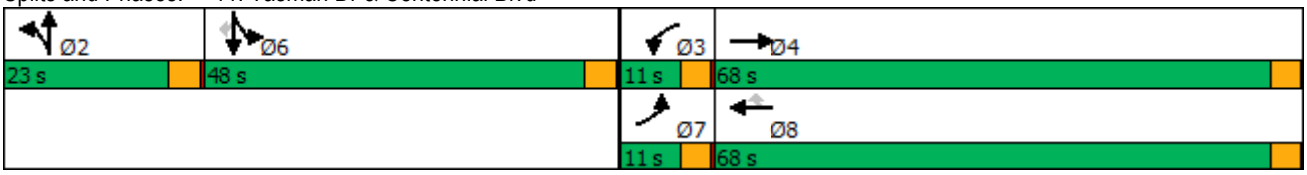
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.56	1.03		0.22	0.67	0.14		0.22		0.93	0.91	0.17

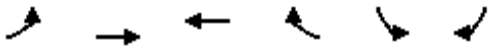
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 133.6			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.98			
Intersection Signal Delay: 53.3		Intersection LOS: D	
Intersection Capacity Utilization 86.1%		ICU Level of Service E	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

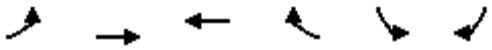
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Tasman Dr & Centennial Blvd





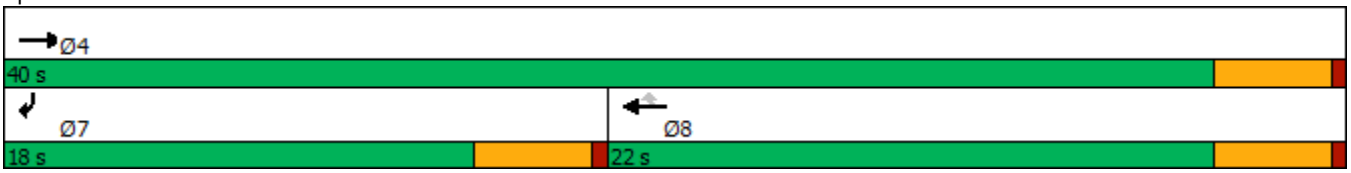
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	2728	692	461	0	414
Future Volume (vph)	0	2728	692	461	0	414
Ideal Flow (vphpl)	1900	2040	2040	2100	1900	2063
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	3800	3800	1750	0	1750
Flt Permitted						
Satd. Flow (perm)	0	3800	3800	1750	0	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				501		135
Link Speed (mph)		30	30		30	
Link Distance (ft)		681	1177		382	
Travel Time (s)		15.5	26.8		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	2965	752	501	0	450
Turn Type		NA	NA	Perm		Prot
Protected Phases		4	8			7
Permitted Phases				8		
Detector Phase		4	8	8		7
Switch Phase						
Minimum Initial (s)		4.0	4.0	4.0		4.0
Minimum Split (s)		20.0	20.0	20.0		11.0
Total Split (s)		40.0	22.0	22.0		18.0
Total Split (%)		100.0%	55.0%	55.0%		45.0%
Yellow Time (s)		3.5	3.5	3.5		3.5
All-Red Time (s)		0.5	0.5	0.5		0.5
Lost Time Adjust (s)		-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)		3.0	3.0	3.0		3.0
Lead/Lag			Lag	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes
Recall Mode		None	None	None		Max
Act Effct Green (s)		40.0	19.0	19.0		15.0
Actuated g/C Ratio		1.00	0.48	0.48		0.38

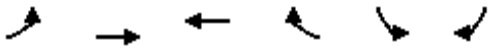


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.78	0.42	0.46		0.61
Control Delay		1.7	7.8	2.4		11.1
Queue Delay		0.0	0.0	0.0		0.0
Total Delay		1.7	7.8	2.4		11.1
LOS		A	A	A		B
Approach Delay		1.7	5.6		11.1	
Approach LOS		A	A		B	
Queue Length 50th (ft)		0	51	0		51
Queue Length 95th (ft)		0	81	33		116
Internal Link Dist (ft)		601	1097		302	
Turn Bay Length (ft)						
Base Capacity (vph)		3800	1805	1094		740
Starvation Cap Reductn		0	0	0		0
Spillback Cap Reductn		0	0	0		0
Storage Cap Reductn		0	0	0		0
Reduced v/c Ratio		0.78	0.42	0.46		0.61

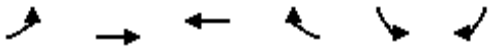
Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 40			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 3.6		Intersection LOS: A	
Intersection Capacity Utilization 73.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 12: Tasman Dr & Avenue C





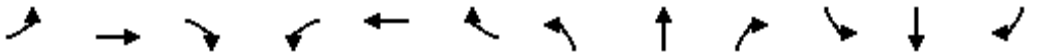
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	132	2052	906	170	166	144
Future Volume (vph)	132	2052	906	170	166	144
Ideal Flow (vphpl)	1744	2040	2040	2100	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	170			120	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	75				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	3800	3800	1750	3151	1750
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	3800	3800	1750	3151	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				185		79
Link Speed (mph)		30	30		30	
Link Distance (ft)		1177	775		490	
Travel Time (s)		26.8	17.6		11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	2230	985	185	180	157
Turn Type	Prot	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	7	4	8	1	1	7
Permitted Phases				8		1
Detector Phase	7	4	8	1	1	7
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	11.0	11.0
Total Split (s)	11.0	39.0	28.0	11.0	11.0	11.0
Total Split (%)	22.0%	78.0%	56.0%	22.0%	22.0%	22.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	7.7	36.0	27.3	38.7	7.8	18.5
Actuated g/C Ratio	0.15	0.72	0.55	0.78	0.16	0.37



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio	0.29	0.81	0.47	0.13	0.37	0.22
Control Delay	20.4	7.9	8.7	0.7	21.2	6.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.4	7.9	8.7	0.7	21.2	6.8
LOS	C	A	A	A	C	A
Approach Delay		8.6	7.4		14.5	
Approach LOS		A	A		B	
Queue Length 50th (ft)	19	157	92	0	24	14
Queue Length 95th (ft)	39	242	134	9	47	44
Internal Link Dist (ft)		1097	695		410	
Turn Bay Length (ft)	170			120		
Base Capacity (vph)	506	2748	2082	1388	506	708
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	0.28	0.81	0.47	0.13	0.36	0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 49.8			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 8.8		Intersection LOS: A	
Intersection Capacity Utilization 64.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 13: Tasman Dr & Calle Del Sol



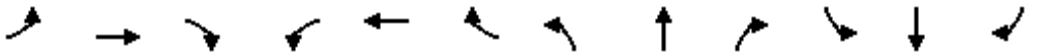
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	1607	734	237	829	39	237	26	243	104	74	57
Future Volume (vph)	45	1607	734	237	829	39	237	26	243	104	74	57
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	1938	2100	1744	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	145		345	160		110	0		100	0		25
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			65			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			432			68			192			123
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		775			593			379			432	
Travel Time (s)		17.6			13.5			8.6			9.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	1747	798	258	901	42	258	28	264	113	80	62
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	11.0	40.0	11.0	11.0	40.0	11.0	11.0	18.0	18.0	11.0	18.0	18.0
Total Split (%)	13.8%	50.0%	13.8%	13.8%	50.0%	13.8%	13.8%	22.5%	22.5%	13.8%	22.5%	22.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	7.6	37.0	48.0	8.0	41.4	52.2	8.0	19.2	19.2	7.8	17.0	17.0
Actuated g/C Ratio	0.09	0.45	0.59	0.10	0.50	0.64	0.10	0.23	0.23	0.10	0.21	0.21

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.30	1.02	0.66	0.84	0.47	0.04	0.84	0.06	0.47	0.38	0.20	0.13
Control Delay	39.8	50.6	7.9	61.4	15.1	1.0	61.4	26.8	12.1	38.6	28.6	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.8	50.6	7.9	61.4	15.1	1.0	61.4	26.8	12.1	38.6	28.6	1.1
LOS	D	D	A	E	B	A	E	C	B	D	C	A
Approach Delay		37.3			24.6			36.0			26.4	
Approach LOS		D			C			D			C	
Queue Length 50th (ft)	24	~477	98	68	168	0	68	12	31	28	34	0
Queue Length 95th (ft)	57	#642	213	#131	222	7	#131	33	99	53	71	4
Internal Link Dist (ft)		695			513			299			352	
Turn Bay Length (ft)	145		345	160		110			100			25
Base Capacity (vph)	170	1714	1203	307	1918	1142	307	444	557	307	393	460
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	1.02	0.66	0.84	0.47	0.04	0.84	0.06	0.47	0.37	0.20	0.13

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 82
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 33.2 Intersection LOS: C
Intersection Capacity Utilization 72.8% ICU Level of Service C
Analysis Period (min) 15
~ 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.

Splits and Phases: 14: Lick Mill Blvd & Tasman Dr



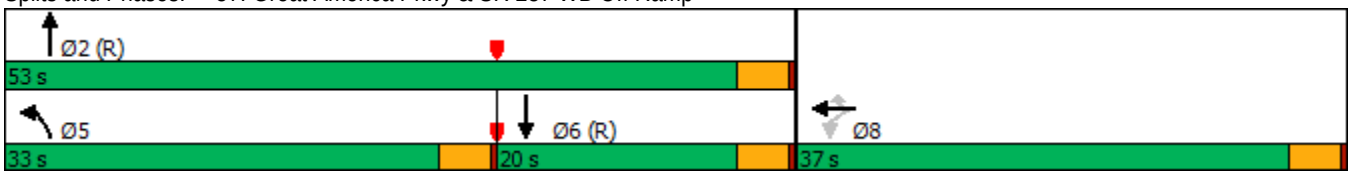
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1446	2	327	1024	658	0	0	162	350
Future Volume (vph)	0	0	0	1446	2	327	1024	658	0	0	162	350
Ideal Flow (vphpl)	1900	1900	1900	1859	2117	2148	1744	2040	1900	1900	2215	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		460	0		0	0		0
Storage Lanes	0		0	2		2	2		0	0		0
Taper Length (ft)	25			300			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.88	0.97	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt						0.850					0.897	
Flt Protected				0.950	0.953		0.950					
Satd. Flow (prot)	0	0	0	3151	1800	3150	3151	3800	0	0	3701	0
Flt Permitted				0.950	0.953		0.950					
Satd. Flow (perm)	0	0	0	3151	1800	3150	3151	3800	0	0	3701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						355					380	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		313			737			363			260	
Travel Time (s)		7.1			16.8			8.3			5.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				33%								
Lane Group Flow (vph)	0	0	0	1053	521	355	1113	715	0	0	556	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0	4.0	4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0	20.0	11.0	20.0			20.0	
Total Split (s)				37.0	37.0	37.0	33.0	53.0			20.0	
Total Split (%)				41.1%	41.1%	41.1%	36.7%	58.9%			22.2%	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				-1.0	-1.0	-1.0	-1.0	-1.0			-1.0	
Total Lost Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				None	None	None	None	C-Max			C-Max	
Act Effct Green (s)				34.0	34.0	34.0	30.0	50.0			17.0	
Actuated g/C Ratio				0.38	0.38	0.38	0.33	0.56			0.19	

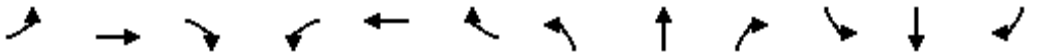
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.88	0.77	0.25	1.06	0.34			0.55	
Control Delay				36.8	33.5	2.6	76.4	16.9			12.6	
Queue Delay				0.0	0.0	0.0	16.7	0.9			0.0	
Total Delay				36.8	33.5	2.6	93.1	17.8			12.6	
LOS				D	C	A	F	B			B	
Approach Delay					29.6			63.7			12.6	
Approach LOS					C			E			B	
Queue Length 50th (ft)				302	280	0	~377	144			45	
Queue Length 95th (ft)				#431	#421	28	#506	215			93	
Internal Link Dist (ft)		233			657			283			180	
Turn Bay Length (ft)				150		460						
Base Capacity (vph)				1190	680	1410	1050	2111			1007	
Starvation Cap Reductn				0	0	0	162	1039			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	0.77	0.25	1.25	0.67			0.55	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 41.9 Intersection LOS: D
Intersection Capacity Utilization 107.9% ICU Level of Service G
Analysis Period (min) 15
~ 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.

Splits and Phases: 57: Great America Pkwy & SR 237 WB Off Ramp





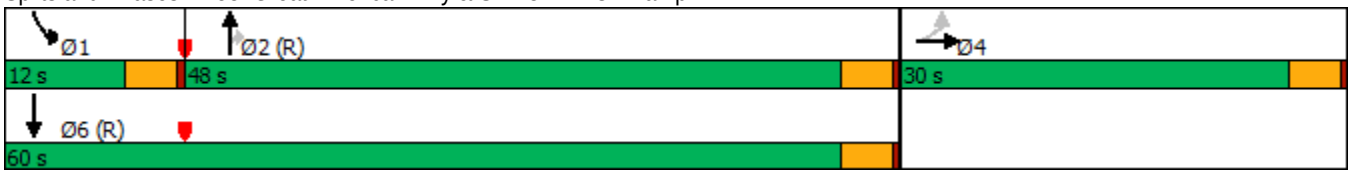
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	264	11	611	0	0	0	0	1412	1738	95	1570	0
Future Volume (vph)	264	11	611	0	0	0	0	1412	1738	95	1570	0
Ideal Flow (vphpl)	1900	1924	2148	1900	1900	1900	1900	2348	2442	1879	2130	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		240	0		0	0		0	0		0
Storage Lanes	0		2	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor												
Frt			0.850					0.943	0.850			
Flt Protected		0.954								0.950		
Satd. Flow (prot)	0	1800	3150	0	0	0	0	5601	1750	1750	5701	0
Flt Permitted		0.954								0.950		
Satd. Flow (perm)	0	1800	3150	0	0	0	0	5601	1750	1750	5701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			664					246	860			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		585			288			553			363	
Travel Time (s)		13.3			6.5			12.6			8.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	299	664	0	0	0	0	2480	944	103	1707	0
Turn Type	Perm	NA	Free					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		Free						2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0	20.0	11.0	20.0	
Total Split (s)	30.0	30.0						48.0	48.0	12.0	60.0	
Total Split (%)	33.3%	33.3%						53.3%	53.3%	13.3%	66.7%	
Yellow Time (s)	3.5	3.5						3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5						0.5	0.5	0.5	0.5	
Lost Time Adjust (s)		-1.0						-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		3.0						3.0	3.0	3.0	3.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Act Effct Green (s)		21.0	90.0					52.1	52.1	10.1	63.0	
Actuated g/C Ratio		0.23	1.00					0.58	0.58	0.11	0.70	

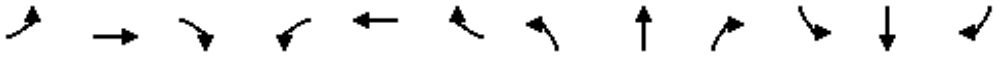
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.71	0.21					0.74	0.69	0.53	0.43	
Control Delay		41.0	0.2					10.8	4.6	41.7	10.3	
Queue Delay		45.5	0.0					0.3	0.6	0.0	0.3	
Total Delay		86.5	0.2					11.0	5.2	41.7	10.7	
LOS		F	A					B	A	D	B	
Approach Delay		27.0						9.4			12.4	
Approach LOS		C						A			B	
Queue Length 50th (ft)		157	0					189	62	64	155	
Queue Length 95th (ft)		224	0					m187	m58	m81	211	
Internal Link Dist (ft)		505			208			473			283	
Turn Bay Length (ft)			240									
Base Capacity (vph)		540	3150					3344	1375	201	3993	
Starvation Cap Reductn		0	0					263	153	0	1438	
Spillback Cap Reductn		258	0					172	0	0	0	
Storage Cap Reductn		0	0					0	0	0	0	
Reduced v/c Ratio		1.06	0.21					0.80	0.77	0.51	0.67	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 107.9%		ICU Level of Service G	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 58: Great America Pkwy & SR 237 EB Off Ramp





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	82	23	83	9	390	21	2480	543	205	1292	7
Future Volume (vph)	60	82	23	83	9	390	21	2480	543	205	1292	7
Ideal Flow (vphpl)	1879	1938	2100	1879	2255	2210	1879	2130	2100	1744	2095	1900
Storage Length (ft)	60		60	115		100	50		0	150		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			65			115			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Frt			0.850			0.850		0.973			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	1750	2211	3241	1750	5547	0	3151	5602	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	1750	2211	3241	1750	5547	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			109			103		77			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		343			1927			1191			553	
Travel Time (s)		7.8			43.8			27.1			12.6	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	89	25	90	10	424	23	3286	0	223	1412	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	4		7	8	1	5	2		1	6	
Permitted Phases			4			8						
Detector Phase	3	4	4	7	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	11.0	11.0	20.0		11.0	20.0	
Total Split (s)	11.0	20.0	20.0	11.0	20.0	11.0	11.0	48.0		11.0	48.0	
Total Split (%)	12.2%	22.2%	22.2%	12.2%	22.2%	12.2%	12.2%	53.3%		12.2%	53.3%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	15.8	10.5	10.5	7.9	8.2	16.0	7.8	51.1		12.6	62.5	
Actuated g/C Ratio	0.18	0.12	0.12	0.09	0.09	0.18	0.09	0.57		0.14	0.69	
v/c Ratio	0.21	0.40	0.08	0.59	0.05	0.64	0.15	1.03		0.51	0.36	
Control Delay	33.8	41.5	0.6	56.3	35.8	29.7	34.5	39.7		45.9	11.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0		0.0	0.0	
Total Delay	33.8	41.5	0.6	56.3	35.8	29.7	34.5	41.7		45.9	11.0	
LOS	C	D	A	E	D	C	C	D		D	B	
Approach Delay		33.0			34.4			41.7			15.8	
Approach LOS		C			C			D			B	
Queue Length 50th (ft)	29	48	0	50	5	98	12	~805		64	122	
Queue Length 95th (ft)	77	90	0	#110	19	123	m15	#620		106	196	
Internal Link Dist (ft)		263			1847			1111			473	
Turn Bay Length (ft)	60		60	115		100	50			150		
Base Capacity (vph)	313	358	418	155	417	660	162	3182		440	3890	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	16		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.21	0.25	0.06	0.58	0.02	0.64	0.14	1.04		0.51	0.36	

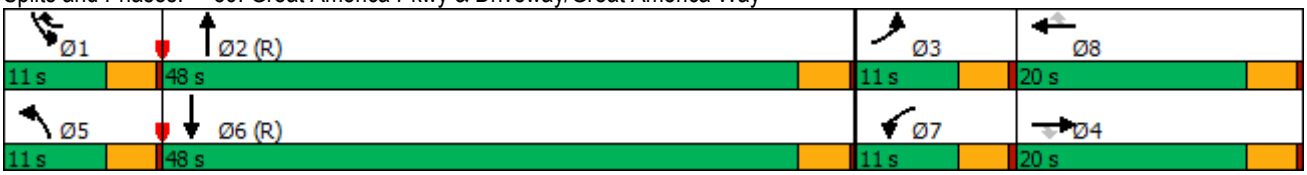
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay: 33.2		Intersection LOS: C	
Intersection Capacity Utilization 81.2%		ICU Level of Service D	
Analysis Period (min) 15			

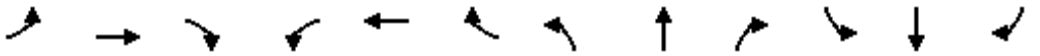
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 59: Great America Pkwy & Driveway/Great America Way





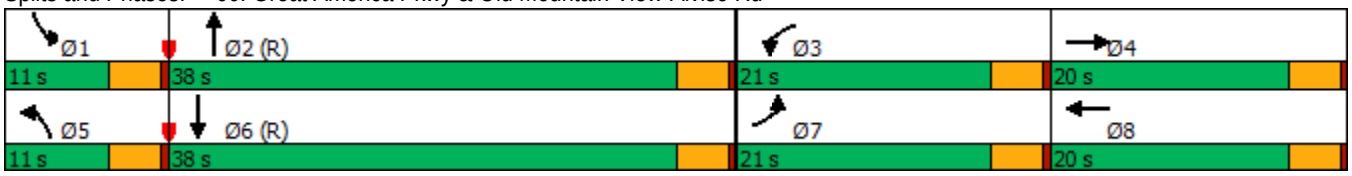
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	536	77	165	67	10	49	90	2468	11	11	1386	81
Future Volume (vph)	536	77	165	67	10	49	90	2468	11	11	1386	81
Ideal Flow (vphpl)	1744	2047	1900	1879	2096	2148	1879	2095	2242	1879	2109	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		0	80		0	150		0	110		0
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	25			65			25			90		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.898			0.876			0.999			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	1802	0	1750	1800	0	1750	5602	0	1750	5600	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	1802	0	1750	1800	0	1750	5602	0	1750	5600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		105			53			1			12	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			389			446			1191	
Travel Time (s)		17.4			8.8			10.1			27.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	583	263	0	73	64	0	98	2695	0	12	1595	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	21.0	20.0		21.0	20.0		11.0	38.0		11.0	38.0	
Total Split (%)	23.3%	22.2%		23.3%	22.2%		12.2%	42.2%		12.2%	42.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	18.0	17.4		10.1	9.5		10.1	53.1		7.2	44.4	
Actuated g/C Ratio	0.20	0.19		0.11	0.11		0.11	0.59		0.08	0.49	

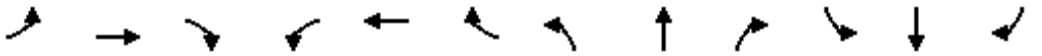
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.93	0.61		0.37	0.27		0.50	0.81		0.09	0.58	
Control Delay	58.2	25.9		41.6	15.7		46.0	17.9		35.9	20.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.4		0.0	0.0	
Total Delay	58.2	25.9		41.6	15.7		46.0	18.3		35.9	20.0	
LOS	E	C		D	B		D	B		D	C	
Approach Delay		48.2			29.5			19.3			20.1	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	169	84		39	6		53	328		7	106	
Queue Length 95th (ft)	#268	153		78	39		m80	#803		m0	301	
Internal Link Dist (ft)		684			309			366			1111	
Turn Bay Length (ft)	130			80			150			110		
Base Capacity (vph)	630	445		350	382		198	3308		156	2767	
Starvation Cap Reductn	0	0		0	0		0	198		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.93	0.59		0.21	0.17		0.49	0.87		0.08	0.58	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 24.4 Intersection LOS: C
Intersection Capacity Utilization 80.1% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 60: Great America Pkwy & Old Mountain View-Alviso Rd



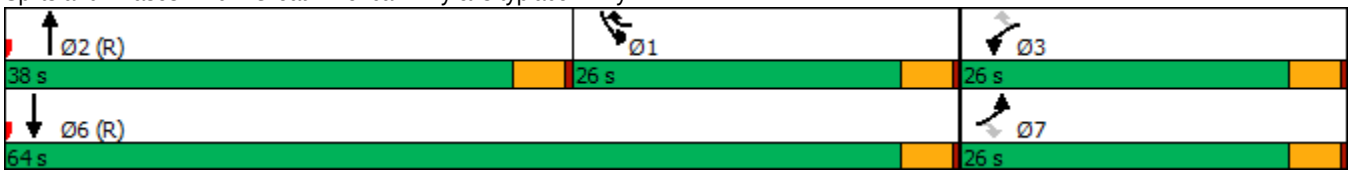


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	270	0	1036	0	1502	204	470	1286	0
Future Volume (vph)	0	0	0	270	0	1036	0	1502	204	470	1286	0
Ideal Flow (vphpl)	1785	1900	1785	1744	1900	2148	1900	2131	1900	1744	2093	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		250	150		0
Storage Lanes	1		1	2		2	0		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Ped Bike Factor												
Frt						0.850		0.982				
Flt Protected				0.950						0.950		
Satd. Flow (prot)	1750	0	1750	3151	0	3150	0	5601	0	3151	5602	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	1750	0	1750	3151	0	3150	0	5601	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						12		32				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		261			2574			838			446	
Travel Time (s)		5.9			58.5			19.0			10.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	293	0	1126	0	1855	0	511	1398	0
Turn Type	Prot		Perm	Prot		pm+ov		NA		Prot	NA	
Protected Phases	7			3		1		2		1	6	
Permitted Phases			7			3						
Detector Phase	7		7	3		1		2		1	6	
Switch Phase												
Minimum Initial (s)	4.0		4.0	4.0		4.0		4.0		4.0	4.0	
Minimum Split (s)	11.0		11.0	11.0		11.0		20.0		11.0	20.0	
Total Split (s)	26.0		26.0	26.0		26.0		38.0		26.0	64.0	
Total Split (%)	28.9%		28.9%	28.9%		28.9%		42.2%		28.9%	71.1%	
Yellow Time (s)	3.5		3.5	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5		0.5		0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0		3.0	3.0		3.0		3.0		3.0	3.0	
Lead/Lag						Lag		Lead		Lag		
Lead-Lag Optimize?						Yes		Yes		Yes		
Recall Mode	None		None	None		None		C-Max		None	C-Max	
Act Effct Green (s)				14.6		40.6		43.4		23.0	69.4	
Actuated g/C Ratio				0.16		0.45		0.48		0.26	0.77	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.57		0.79		0.68		0.63	0.32	
Control Delay				39.0		25.3		20.9		28.1	1.4	
Queue Delay				0.0		0.0		0.6		0.0	0.1	
Total Delay				39.0		25.3		21.6		28.1	1.5	
LOS				D		C		C		C	A	
Approach Delay					28.1			21.6			8.6	
Approach LOS					C			C			A	
Queue Length 50th (ft)				80		296		254		155	25	
Queue Length 95th (ft)				114		354		320		208	33	
Internal Link Dist (ft)		181			2494			758			366	
Turn Bay Length (ft)										150		
Base Capacity (vph)				805		1427		2717		805	4319	
Starvation Cap Reductn				0		0		0		0	1300	
Spillback Cap Reductn				0		0		445		0	0	
Storage Cap Reductn				0		0		0		0	0	
Reduced v/c Ratio				0.36		0.79		0.82		0.63	0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 45			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 68.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 61: Great America Pkwy & Cityplace Pkwy

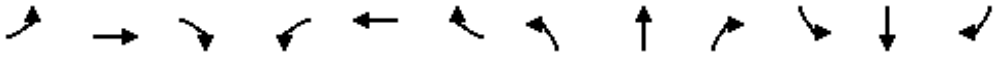


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	557	282	1424	741	288	1269
Future Volume (vph)	557	282	1424	741	288	1269
Ideal Flow (vphpl)	1744	2100	2205	1900	1744	2130
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		300	300	
Storage Lanes	2	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.91	0.91	0.97	0.91
Ped Bike Factor						
Frt		0.850	0.949			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	5601	0	3151	5701
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	5601	0	3151	5701
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		18	213			
Link Speed (mph)	30		30			30
Link Distance (ft)	989		472			838
Travel Time (s)	22.5		10.7			19.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	605	307	2353	0	313	1379
Turn Type	Prot	pm+ov	NA		Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8				
Detector Phase	8	1	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	11.0	11.0	20.0		11.0	20.0
Total Split (s)	28.0	13.0	49.0		13.0	62.0
Total Split (%)	31.1%	14.4%	54.4%		14.4%	68.9%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0		3.0	3.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	C-Max		None	C-Max
Act Effct Green (s)	22.4	37.0	47.0		11.6	61.6
Actuated g/C Ratio	0.25	0.41	0.52		0.13	0.68

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.77	0.42	0.78		0.77	0.35
Control Delay	38.4	19.5	13.6		54.7	7.3
Queue Delay	0.0	0.0	0.1		0.0	0.0
Total Delay	38.4	19.5	13.7		54.7	7.3
LOS	D	B	B		D	A
Approach Delay	32.1		13.7			16.1
Approach LOS	C		B			B
Queue Length 50th (ft)	162	111	137		92	122
Queue Length 95th (ft)	217	179	150		#166	130
Internal Link Dist (ft)	909		392			758
Turn Bay Length (ft)					300	
Base Capacity (vph)	875	730	3024		406	3899
Starvation Cap Reductn	0	0	48		0	0
Spillback Cap Reductn	0	0	0		0	240
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.69	0.42	0.79		0.77	0.38

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 17.9		Intersection LOS: B	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 62: Great America Pkwy & Second St



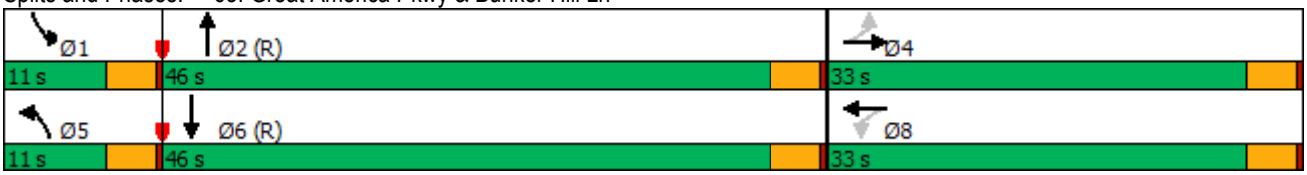
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	269	19	235	174	21	71	28	1837	40	32	1534	89
Future Volume (vph)	269	19	235	174	21	71	28	1837	40	32	1534	89
Ideal Flow (vphpl)	2065	2279	1900	1879	2247	1900	1879	2099	1900	1879	2109	1900
Storage Length (ft)	130		0	125		0	140		0	145		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			75			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.861			0.884			0.997			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1923	3655	0	1750	3700	0	1750	5601	0	1750	5600	0
Flt Permitted	0.689			0.518			0.950			0.950		
Satd. Flow (perm)	1395	3655	0	954	3700	0	1750	5601	0	1750	5600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		163			77			5			14	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		838			526			859			472	
Travel Time (s)		19.0			12.0			19.5			10.7	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	292	276	0	189	100	0	30	2040	0	35	1764	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	33.0	33.0		33.0	33.0		11.0	46.0		11.0	46.0	
Total Split (%)	36.7%	36.7%		36.7%	36.7%		12.2%	51.1%		12.2%	51.1%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	24.7	24.7		24.7	24.7		7.5	52.7		7.6	52.7	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.08	0.59		0.08	0.59	
v/c Ratio	0.76	0.25		0.72	0.09		0.21	0.62		0.24	0.54	
Control Delay	42.9	10.0		45.0	7.8		42.6	11.8		44.4	17.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.1	
Total Delay	42.9	10.0		45.0	7.8		42.6	11.8		44.4	17.5	
LOS	D	B		D	A		D	B		D	B	
Approach Delay		26.9			32.2			12.2			18.1	
Approach LOS		C			C			B			B	
Queue Length 50th (ft)	149	24		95	4		18	152		19	279	
Queue Length 95th (ft)	228	51		163	21		m23	m163		m43	396	
Internal Link Dist (ft)		758			446			779			392	
Turn Bay Length (ft)	130			125			140			145		
Base Capacity (vph)	465	1327		318	1284		156	3279		157	3286	
Starvation Cap Reductn	0	0		0	0		0	0		0	369	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	

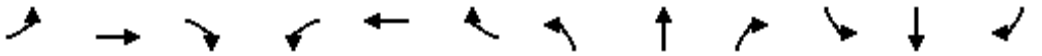
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.63	0.21		0.59	0.08		0.19	0.62		0.22	0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 63: Great America Pkwy & Bunker Hill Ln





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	0	101	2	0	2	13	1800	0	8	2487	4
Future Volume (vph)	45	0	101	2	0	2	13	1800	0	8	2487	4
Ideal Flow (vphpl)	1900	1933	2100	1744	2373	2077	1744	2224	1900	1744	2093	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	90		0	220		0	245		0
Storage Lanes	0		1	2		2	2		0	2		0
Taper Length (ft)	25			70			85			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.91	0.91	0.97	0.86	0.86	0.97	0.91	0.91
Ped Bike Factor												
Frt			0.850		0.850	0.850						
Flt Protected		0.950		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	1750	3151	1800	3150	3151	7501	0	3151	5602	0
Flt Permitted		0.757		0.950			0.950			0.950		
Satd. Flow (perm)	0	1435	1750	3151	1800	3150	3151	7501	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			110		154	280						
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		597			530			1416			1240	
Travel Time (s)		13.6			12.0			32.2			28.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)						33%						
Lane Group Flow (vph)	0	49	110	2	1	1	14	1957	0	9	2707	0
Turn Type	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4			8						
Detector Phase	4	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0		11.0	20.0	
Total Split (s)	20.0	20.0	11.0	11.0	31.0	31.0	11.0	48.0		11.0	48.0	
Total Split (%)	22.2%	22.2%	12.2%	12.2%	34.4%	34.4%	12.2%	53.3%		12.2%	53.3%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lag	Lag	Lead	Lead			Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)		9.5	15.4	6.6	11.2	11.2	6.9	75.7		6.8	69.2	
Actuated g/C Ratio		0.11	0.17	0.07	0.12	0.12	0.08	0.84		0.08	0.77	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.32	0.28	0.01	0.00	0.00	0.06	0.31		0.04	0.63	
Control Delay		42.1	7.5	38.5	0.0	0.0	36.4	3.0		27.5	10.1	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		42.1	7.5	38.5	0.0	0.0	36.4	3.0		27.5	10.1	
LOS		D	A	D	A	A	D	A		C	B	
Approach Delay		18.2			19.3			3.3			10.2	
Approach LOS		B			B			A			B	
Queue Length 50th (ft)		26	0	0	0	0	3	6		2	319	
Queue Length 95th (ft)		59	38	4	0	0	m8	213		m3	m361	
Internal Link Dist (ft)		517			450			1336			1160	
Turn Bay Length (ft)				90			220			245		
Base Capacity (vph)		271	409	280	666	1172	280	6312		280	4306	
Starvation Cap Reductn		0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0		0	0	
Storage Cap Reductn		0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio		0.18	0.27	0.01	0.00	0.00	0.05	0.31		0.03	0.63	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 62.7% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 64: Great America Pkwy & Old Glory Ln

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	4	609	209	10	44	107	1875	21	9	2747	8
Future Volume (vph)	47	4	609	209	10	44	107	1875	21	9	2747	8
Ideal Flow (vphpl)	1879	1938	2100	1744	2091	1000	1744	2229	1900	1879	2130	2100
Storage Length (ft)	100		0	110		0	220		0	370		0
Storage Lanes	1		1	2		0	2		0	1		1
Taper Length (ft)	100			50			65			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.86	0.86	1.00	0.91	1.00
Frt			0.850		0.878			0.998				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	3151	1800	0	3151	7502	0	1750	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	3151	1800	0	3151	7502	0	1750	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			61		48			3				109
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		695			297			1322			1416	
Travel Time (s)		15.8			6.8			30.0			32.2	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	51	4	662	227	59	0	116	2061	0	10	2986	9
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0		11.0	20.0		11.0	20.0	20.0
Total Split (s)	11.0	20.0	14.0	11.0	20.0		14.0	48.0		11.0	45.0	45.0
Total Split (%)	12.2%	22.2%	15.6%	12.2%	22.2%		15.6%	53.3%		12.2%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	7.7	7.3	26.7	12.3	8.3		24.1	66.9		7.1	42.0	42.0
Actuated g/C Ratio	0.09	0.08	0.30	0.14	0.09		0.27	0.74		0.08	0.47	0.47
v/c Ratio	0.34	0.03	1.18	0.53	0.28		0.14	0.37		0.07	1.12	0.01
Control Delay	45.4	37.2	126.3	41.7	18.6		24.0	8.4		26.0	86.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	45.4	37.2	126.3	41.7	18.6		24.0	8.4		26.0	86.9	0.0
LOS	D	D	F	D	B		C	A		C	F	A
Approach Delay		120.1			37.0			9.2			86.5	
Approach LOS		F			D			A			F	
Queue Length 50th (ft)	28	2	~496	57	6		30	125		5	~754	0
Queue Length 95th (ft)	64	12	#597	#126	41		m52	m213		m8	#801	m0
Internal Link Dist (ft)		615			217			1242			1336	
Turn Bay Length (ft)	100			110			220			370		
Base Capacity (vph)	155	358	562	429	378		844	5575		156	2660	874
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.33	0.01	1.18	0.53	0.16		0.14	0.37		0.06	1.12	0.01

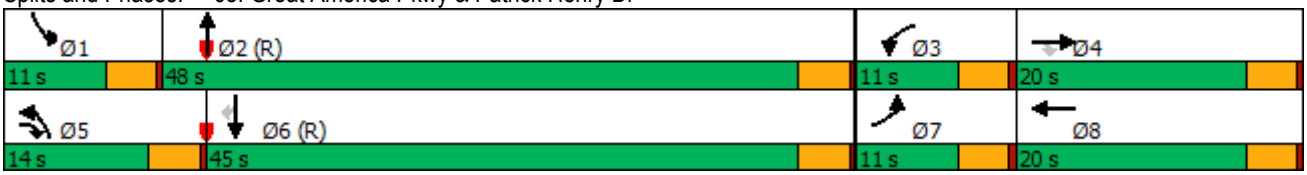
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay: 60.9		Intersection LOS: E	
Intersection Capacity Utilization 98.0%		ICU Level of Service F	
Analysis Period (min) 15			

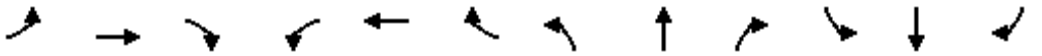
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 65: Great America Pkwy & Patrick Henry Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	282	459	100	445	125	226	271	1439	377	527	2504	367
Future Volume (vph)	282	459	100	445	125	226	271	1439	377	527	2504	367
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	2254	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	220		0	230		50	460		220	180		0
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			90			130			70		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.86	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	7602	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	7602	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206			246			353			206
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		661			613			2059			1322	
Travel Time (s)		15.0			13.9			46.8			30.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	307	499	109	484	136	246	295	1564	410	573	2722	399
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free			Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	14.0	20.0		14.0	20.0		11.0	35.0		21.0	45.0	
Total Split (%)	15.6%	22.2%		15.6%	22.2%		12.2%	38.9%		23.3%	50.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	11.0	16.2	90.0	11.0	16.2	90.0	8.8	32.6	90.0	18.2	42.0	90.0
Actuated g/C Ratio	0.12	0.18	1.00	0.12	0.18	1.00	0.10	0.36	1.00	0.20	0.47	1.00

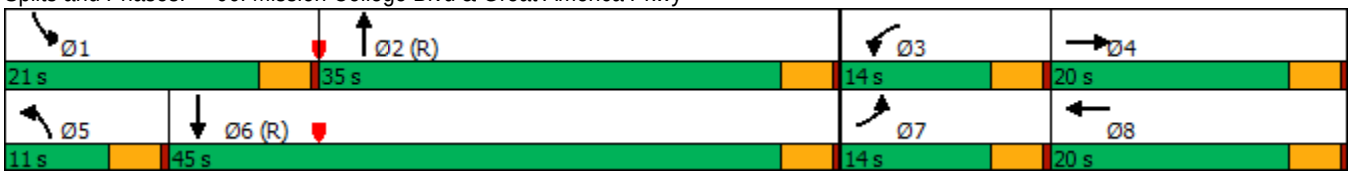
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.44	0.73	0.06	1.26	0.20	0.14	0.96	0.57	0.23	0.90	1.02	0.23
Control Delay	255.2	41.7	0.1	170.4	31.9	0.2	81.3	25.1	0.3	47.0	50.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	255.2	41.7	0.1	170.4	31.9	0.2	81.3	25.1	0.3	47.0	50.8	0.2
LOS	F	D	A	F	C	A	F	C	A	D	D	A
Approach Delay		108.4			100.3			27.9			44.7	
Approach LOS		F			F			C			D	
Queue Length 50th (ft)	~239	140	0	~179	34	0	~84	236	0	172	~517	0
Queue Length 95th (ft)	#398	194	0	#276	60	0	#173	277	0	m#252	#689	m0
Internal Link Dist (ft)		581			533			1979			1242	
Turn Bay Length (ft)	220			230		50	460		220	180		
Base Capacity (vph)	213	717	1750	385	717	1750	308	2749	1750	638	2660	1750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.44	0.70	0.06	1.26	0.19	0.14	0.96	0.57	0.23	0.90	1.02	0.23

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.44
Intersection Signal Delay: 53.5 Intersection LOS: D
Intersection Capacity Utilization 90.6% ICU Level of Service E
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 66: Mission College Blvd & Great America Pkwy



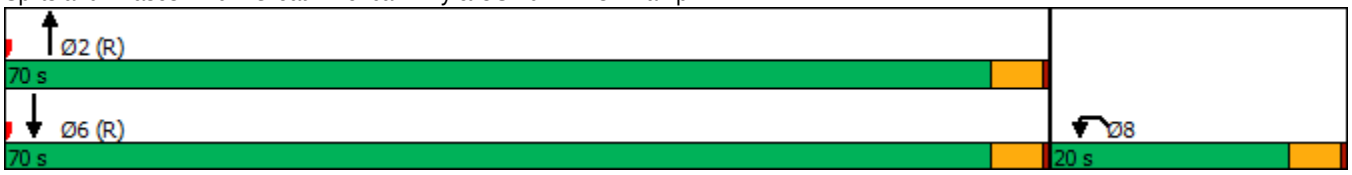
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	1645	0	0	2709	367	669
Future Volume (vph)	1645	0	0	2709	367	669
Ideal Flow (vphpl)	2130	1900	1900	2130	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	5701	0	0	5701	3151	1750
Flt Permitted					0.950	
Satd. Flow (perm)	5701	0	0	5701	3151	1750
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						248
Link Speed (mph)	30			30	30	
Link Distance (ft)	955			2059	341	
Travel Time (s)	21.7			46.8	7.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1788	0	0	2945	399	727
Turn Type	NA			NA	Prot	Free
Protected Phases	2			6	8	
Permitted Phases						Free
Detector Phase	2			6	8	
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	20.0			20.0	11.0	
Total Split (s)	70.0			70.0	20.0	
Total Split (%)	77.8%			77.8%	22.2%	
Yellow Time (s)	3.5			3.5	3.5	
All-Red Time (s)	0.5			0.5	0.5	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	3.0			3.0	3.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	None	
Act Effct Green (s)	68.1			68.1	15.9	90.0
Actuated g/C Ratio	0.76			0.76	0.18	1.00

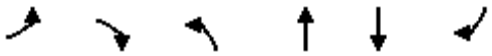
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
v/c Ratio	0.41			0.68	0.72	0.42
Control Delay	3.4			7.6	42.6	0.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	3.4			7.6	42.6	0.7
LOS	A			A	D	A
Approach Delay	3.4			7.6	15.6	
Approach LOS	A			A	B	
Queue Length 50th (ft)	93			262	109	0
Queue Length 95th (ft)	93			m250	158	0
Internal Link Dist (ft)	875			1979	261	
Turn Bay Length (ft)						
Base Capacity (vph)	4311			4311	595	1750
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.41			0.68	0.67	0.42

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 40			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 7.9		Intersection LOS: A	
Intersection Capacity Utilization 64.8%		ICU Level of Service C	
Analysis Period (min) 15			

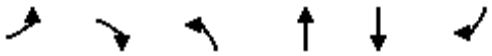
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 67: Great America Pkwy & US 101 NB Off Ramp





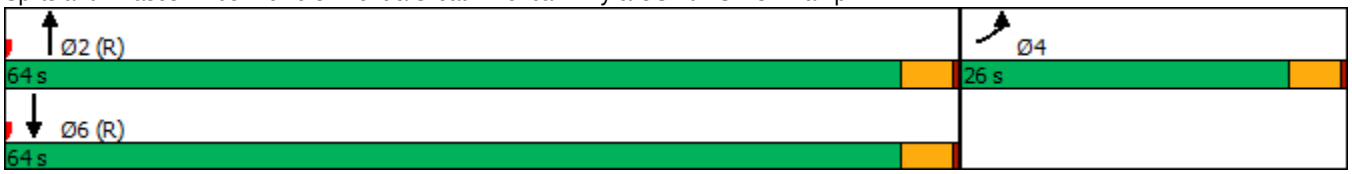
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	297	196	0	1607	2289	0
Future Volume (vph)	297	196	0	1607	2289	0
Ideal Flow (vphpl)	1744	2100	1900	2130	2130	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	2	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3151	1750	0	5701	5701	0
Flt Permitted	0.950					
Satd. Flow (perm)	3151	1750	0	5701	5701	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		213				
Link Speed (mph)	30			30	30	
Link Distance (ft)	485			371	955	
Travel Time (s)	11.0			8.4	21.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	323	213	0	1747	2488	0
Turn Type	Prot	Free		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		Free				
Detector Phase	4			2	6	
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	11.0			20.0	20.0	
Total Split (s)	26.0			64.0	64.0	
Total Split (%)	28.9%			71.1%	71.1%	
Yellow Time (s)	3.5			3.5	3.5	
All-Red Time (s)	0.5			0.5	0.5	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	3.0			3.0	3.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			Max	Max	
Act Effct Green (s)	23.0	90.0		61.0	61.0	
Actuated g/C Ratio	0.26	1.00		0.68	0.68	

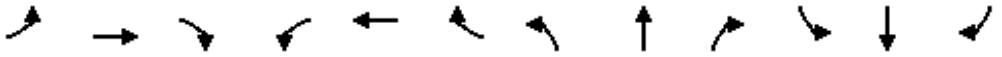


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.40	0.12		0.45	0.64	
Control Delay	29.6	0.1		7.2	15.2	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	29.6	0.1		7.2	15.2	
LOS	C	A		A	B	
Approach Delay	17.9			7.2	15.2	
Approach LOS	B			A	B	
Queue Length 50th (ft)	78	0		147	344	
Queue Length 95th (ft)	117	0		175	357	
Internal Link Dist (ft)	405			291	875	
Turn Bay Length (ft)						
Base Capacity (vph)	805	1750		3864	3864	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.40	0.12		0.45	0.64	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 40			
Control Type: Pretimed			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 64.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 68: Bowers Avenue/Great America Pkwy & US 101 SB Off Ramp



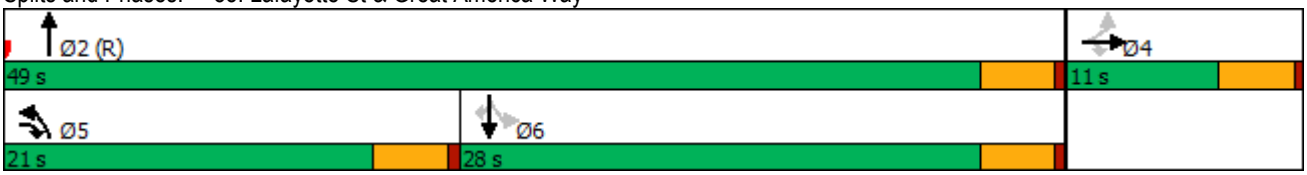


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	0	643	0	0	0	297	240	0	0	521	9
Future Volume (vph)	59	0	643	0	0	0	297	240	0	0	521	9
Ideal Flow (vphpl)	1879	1900	2148	1900	1900	1900	1879	2040	1900	1900	1993	1900
Storage Length (ft)	110		0	0		0	210		0	90		0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	35			25			85			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850									0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1750	1863	1790	0	0	0	1750	3800	0	1863	1954	1583
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1750	1863	1790	0	0	0	1750	3800	0	1863	1954	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			184									91
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1927			187			397			584	
Travel Time (s)		43.8			4.3			9.0			13.3	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	0	699	0	0	0	323	261	0	0	566	10
Turn Type	Perm		pm+ov				Prot	NA		Perm	NA	Perm
Protected Phases		4	5				5	2			6	
Permitted Phases	4		4							6		6
Detector Phase	4	4	5				5	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0				4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0				20.0	20.0		20.0	20.0	20.0
Total Split (s)	11.0	11.0	21.0				21.0	49.0		28.0	28.0	28.0
Total Split (%)	18.3%	18.3%	35.0%				35.0%	81.7%		46.7%	46.7%	46.7%
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5				0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0				-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Lead/Lag			Lead				Lead			Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Recall Mode	Min	Min	None				None	C-Max		None	None	None
Act Effct Green (s)	7.6		26.7				16.1	46.4			27.3	27.3
Actuated g/C Ratio	0.13		0.44				0.27	0.77			0.46	0.46
v/c Ratio	0.29		0.78				0.69	0.09			0.64	0.01
Control Delay	27.3		16.7				27.5	1.8			17.6	0.0
Queue Delay	0.0		0.0				0.0	0.0			0.0	0.0
Total Delay	27.3		16.7				27.5	1.8			17.6	0.0
LOS	C		B				C	A			B	A
Approach Delay		17.6						16.0			17.3	
Approach LOS		B						B			B	
Queue Length 50th (ft)	21		134				99	8			161	0
Queue Length 95th (ft)	52		255				174	13			263	0
Internal Link Dist (ft)		1847			107			317			504	
Turn Bay Length (ft)	110						210					
Base Capacity (vph)	233		949				525	2938			887	768
Starvation Cap Reductn	0		0				0	0			0	0
Spillback Cap Reductn	0		0				0	0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0		0				0	0			0	0
Reduced v/c Ratio	0.27		0.74				0.62	0.09			0.64	0.01

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 17.0		Intersection LOS: B	
Intersection Capacity Utilization 68.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 85: Lafayette St & Great America Way

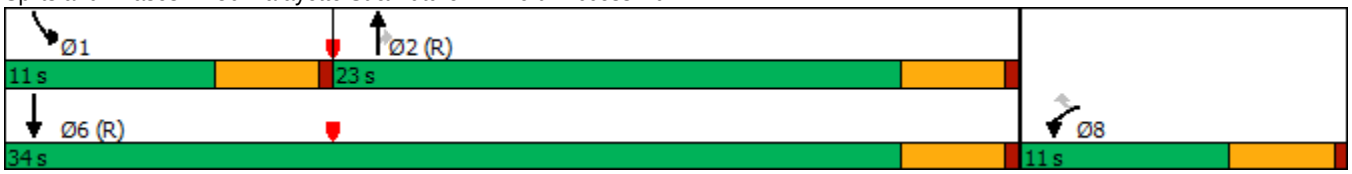


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	8	160	435	6	19	1145
Future Volume (vph)	8	160	435	6	19	1145
Ideal Flow (vphpl)	2141	2308	2040	2100	1879	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	200		400	75	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt	0.864	0.850		0.850		
Flt Protected	0.995				0.950	
Satd. Flow (prot)	3501	1750	3800	1750	1750	3800
Flt Permitted	0.995				0.950	
Satd. Flow (perm)	3501	1750	3800	1750	1750	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	87	87		7		
Link Speed (mph)	30		30			30
Link Distance (ft)	674		1025			397
Travel Time (s)	15.3		23.3			9.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	96	87	473	7	21	1245
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	23.0	23.0	11.0	34.0
Total Split (%)	24.4%	24.4%	51.1%	51.1%	24.4%	75.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	8.0	8.0	20.0	20.0	8.0	31.0
Actuated g/C Ratio	0.18	0.18	0.44	0.44	0.18	0.69

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.14	0.23	0.28	0.01	0.07	0.48
Control Delay	6.2	6.7	8.5	4.7	16.1	4.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.2	6.7	8.5	4.7	16.1	4.0
LOS	A	A	A	A	B	A
Approach Delay	6.5		8.4			4.2
Approach LOS	A		A			A
Queue Length 50th (ft)	1	0	37	0	5	54
Queue Length 95th (ft)	14	29	61	5	18	80
Internal Link Dist (ft)	594		945			317
Turn Bay Length (ft)		200		400	75	
Base Capacity (vph)	693	382	1688	781	311	2617
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	0.14	0.23	0.28	0.01	0.07	0.48

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 5.5		Intersection LOS: A	
Intersection Capacity Utilization 39.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 86: Lafayette St & Future NE North Access Rd



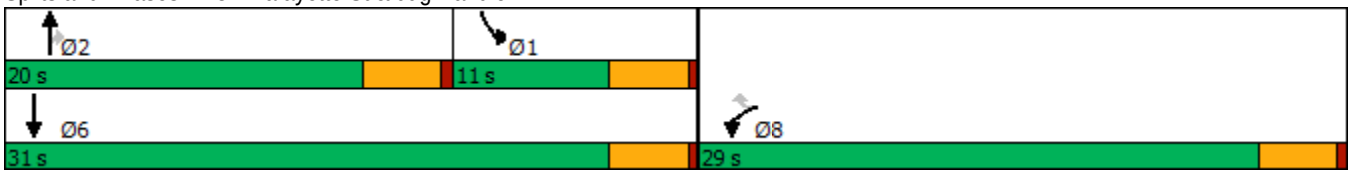
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1152	44	397	755	28	1124
Future Volume (vph)	1152	44	397	755	28	1124
Ideal Flow (vphpl)	1744	2100	2040	2148	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		400	400	
Storage Lanes	2	1		2	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	0.88	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	3150	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	3150	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		48		821		
Link Speed (mph)	30		30			30
Link Distance (ft)	767		890			1025
Travel Time (s)	17.4		20.2			23.3
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1252	48	432	821	30	1222
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	29.0	29.0	20.0	20.0	11.0	31.0
Total Split (%)	48.3%	48.3%	33.3%	33.3%	18.3%	51.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	25.2	25.2	21.6	21.6	7.2	25.8
Actuated g/C Ratio	0.44	0.44	0.38	0.38	0.13	0.45

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.90	0.06	0.30	0.48	0.07	0.71
Control Delay	26.5	3.9	14.7	2.7	23.5	15.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	3.9	14.7	2.7	23.5	15.4
LOS	C	A	B	A	C	B
Approach Delay	25.7		6.8			15.6
Approach LOS	C		A			B
Queue Length 50th (ft)	208	0	46	0	5	171
Queue Length 95th (ft)	#341	15	101	39	15	235
Internal Link Dist (ft)	687		810			945
Turn Bay Length (ft)				400	400	
Base Capacity (vph)	1449	831	1438	1702	446	1883
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	0.86	0.06	0.30	0.48	0.07	0.65

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 57			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 87: Lafayette St & Jug Handle



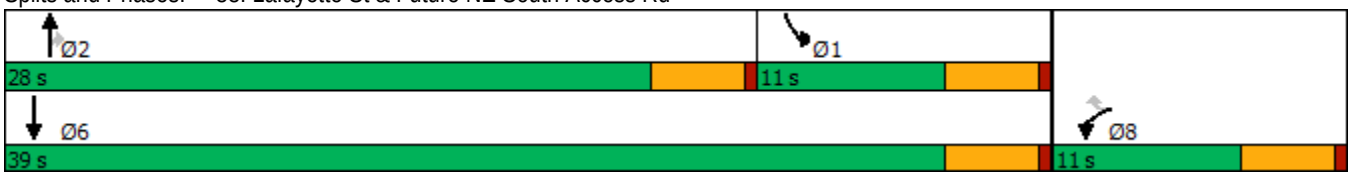
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	303	343	809	176	171	2105
Future Volume (vph)	303	343	809	176	171	2105
Ideal Flow (vphpl)	1744	2100	2040	2100	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		300	200	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	1750	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	1750	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		329		191		
Link Speed (mph)	30		30			30
Link Distance (ft)	502		870			890
Travel Time (s)	11.4		19.8			20.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	329	373	879	191	186	2288
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	28.0	28.0	11.0	39.0
Total Split (%)	22.0%	22.0%	56.0%	56.0%	22.0%	78.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effct Green (s)	8.0	8.0	27.2	27.2	7.8	36.0
Actuated g/C Ratio	0.16	0.16	0.54	0.54	0.16	0.72

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.65	0.67	0.43	0.18	0.38	0.84
Control Delay	27.0	11.5	8.3	1.9	21.3	8.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	11.5	8.3	1.9	21.3	8.9
LOS	C	B	A	A	C	A
Approach Delay	18.8		7.2			9.8
Approach LOS	B		A			A
Queue Length 50th (ft)	47	11	79	0	25	169
Queue Length 95th (ft)	#85	#85	116	22	48	261
Internal Link Dist (ft)	422		790			810
Turn Bay Length (ft)				300	200	
Base Capacity (vph)	504	556	2067	1039	504	2736
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	0.65	0.67	0.43	0.18	0.37	0.84

Intersection Summary			
Area Type:	Other		
Cycle Length: 50			
Actuated Cycle Length: 50			
Natural Cycle: 50			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 70.3%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 88: Lafayette St & Future NE South Access Rd



Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Vol, veh/h	14	128	0	847	11	261	2308
Future Vol, veh/h	14	128	0	847	11	261	2308
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	-	None	-	None
Storage Length	0	0	60	-	-	120	-
Veh in Median Storage, #	1	-	-	0	-	-	0
Grade, %	0	-	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2
Mvmt Flow	15	139	0	921	12	284	2509

Major/Minor	Minor1		Major1			Major2	
Conflicting Flow All	2750	467	2509	0	0	933	0
Stage 1	927	-	-	-	-	-	-
Stage 2	1823	-	-	-	-	-	-
Critical Hdwy	6.84	6.94	6.44	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.52	-	-	2.22	-
Pot Cap-1 Maneuver	16	542	34	-	-	729	-
Stage 1	346	-	-	-	-	-	-
Stage 2	114	-	-	-	-	-	-
Platoon blocked, %				-	-		-
Mov Cap-1 Maneuver	~ 10	542	34	-	-	729	-
Mov Cap-2 Maneuver	56	-	-	-	-	-	-
Stage 1	346	-	-	-	-	-	-
Stage 2	70	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	21.6	0	1.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBU	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	34	-	-	56	542	729	-
HCM Lane V/C Ratio	-	-	-	0.272	0.257	0.389	-
HCM Control Delay (s)	0	-	-	91.7	13.9	13	-
HCM Lane LOS	A	-	-	F	B	B	-
HCM 95th %tile Q(veh)	0	-	-	0.9	1	1.9	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	386	73	0	799	242	166	2173
Future Volume (vph)	386	73	0	799	242	166	2173
Ideal Flow (vphpl)	1744	2100	1785	2040	2100	1879	2040
Storage Length (ft)	0	0	60		0	180	
Storage Lanes	2	1	1		1	1	
Taper Length (ft)	25		85			100	
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850			0.850		
Flt Protected	0.950					0.950	
Satd. Flow (prot)	3151	1750	1750	3800	1750	1750	3800
Flt Permitted	0.950					0.950	
Satd. Flow (perm)	3151	1750	1750	3800	1750	1750	3800
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		79			263		
Link Speed (mph)	30			30			30
Link Distance (ft)	852			1090			471
Travel Time (s)	19.4			24.8			10.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	420	79	0	868	263	180	2362
Turn Type	Prot	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	8	1	5	2		1	6
Permitted Phases		8			2		
Minimum Split (s)	11.0	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	22.0	24.0	11.0	74.0	74.0	24.0	87.0
Total Split (%)	18.3%	20.0%	9.2%	61.7%	61.7%	20.0%	72.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag		Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	19.0	43.0		71.0	71.0	21.0	84.0
Actuated g/C Ratio	0.16	0.36		0.59	0.59	0.18	0.70
v/c Ratio	0.84	0.12		0.39	0.23	0.59	0.89
Control Delay	65.3	6.0		13.6	1.8	54.3	19.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	65.3	6.0		13.6	1.8	54.3	19.8
LOS	E	A		B	A	D	B
Approach Delay	55.9			10.8			22.2
Approach LOS	E			B			C
Queue Length 50th (ft)	164	0		177	0	130	685
Queue Length 95th (ft)	#245	33		218	33	207	821
Internal Link Dist (ft)	772			1010			391
Turn Bay Length (ft)						180	
Base Capacity (vph)	498	677		2248	1142	306	2660
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	0.84	0.12		0.39	0.23	0.59	0.89

Intersection Summary

Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

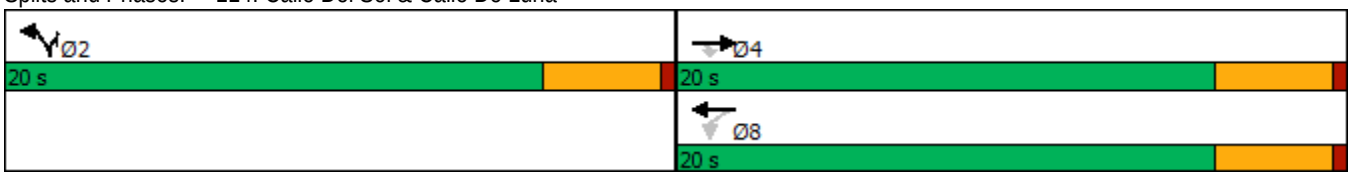
Splits and Phases: 90: Lafayette St & Calle De Luna

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	5	397	20	29	413	7
Future Volume (vph)	5	397	20	29	413	7
Ideal Flow (vphpl)	1938	2100	1900	2027	1879	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		1	0		1	1
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor						
Frt		0.850				0.850
Flt Protected				0.980	0.950	
Satd. Flow (prot)	1900	1750	0	3700	1750	1750
Flt Permitted				0.884	0.950	
Satd. Flow (perm)	1900	1750	0	3338	1750	1750
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		432				8
Link Speed (mph)	30			30	30	
Link Distance (ft)	852			497	490	
Travel Time (s)	19.4			11.3	11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	5	432	0	54	449	8
Turn Type	NA	Perm	Perm	NA	Prot	Prot
Protected Phases	4			8	2	2
Permitted Phases		4	8			
Detector Phase	4	4	8	8	2	2
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	11.0	11.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0		3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	8.7	8.7		8.7	12.6	12.6
Actuated g/C Ratio	0.32	0.32		0.32	0.46	0.46

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
v/c Ratio	0.01	0.51		0.05	0.56	0.01
Control Delay	7.2	3.6		7.3	9.2	3.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	7.2	3.6		7.3	9.2	3.6
LOS	A	A		A	A	A
Approach Delay	3.6			7.3	9.1	
Approach LOS	A			A	A	
Queue Length 50th (ft)	1	0		2	29	0
Queue Length 95th (ft)	4	34		10	120	4
Internal Link Dist (ft)	772			417	410	
Turn Bay Length (ft)						
Base Capacity (vph)	1227	1283		2156	1130	1133
Starvation Cap Reductn	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0
Reduced v/c Ratio	0.00	0.34		0.03	0.40	0.01

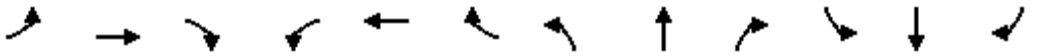
Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 27.5			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 6.5		Intersection LOS: A	
Intersection Capacity Utilization 37.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 114: Calle Del Sol & Calle De Luna



Cumulative + Project Scheme C (Without Lick Mill Connection)

AM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	961	33	707	1034	147	326	1618	508	114	1432	657
Future Volume (vph)	160	961	33	707	1034	147	326	1618	508	114	1432	657
Ideal Flow (vphpl)	1744	2040	2100	1733	2040	2100	1744	2130	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	270		110	245		100	170		0	250		250
Storage Lanes	2		1	3		1	2		1	2		1
Taper Length (ft)	115			140			100			65		
Lane Util. Factor	0.97	0.95	1.00	0.94	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			109			306			203
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			704			1278			856	
Travel Time (s)		17.5			16.0			29.0			19.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	1045	36	768	1124	160	354	1759	552	124	1557	714
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	11.0	27.0	27.0	18.0	34.0	34.0	14.0	34.0	34.0	11.0	31.0	31.0
Total Split (%)	12.2%	30.0%	30.0%	20.0%	37.8%	37.8%	15.6%	37.8%	37.8%	12.2%	34.4%	34.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	8.0	24.0	24.0	15.0	31.0	31.0	11.0	31.1	31.1	7.9	28.0	28.0
Actuated g/C Ratio	0.09	0.27	0.27	0.17	0.34	0.34	0.12	0.35	0.35	0.09	0.31	0.31

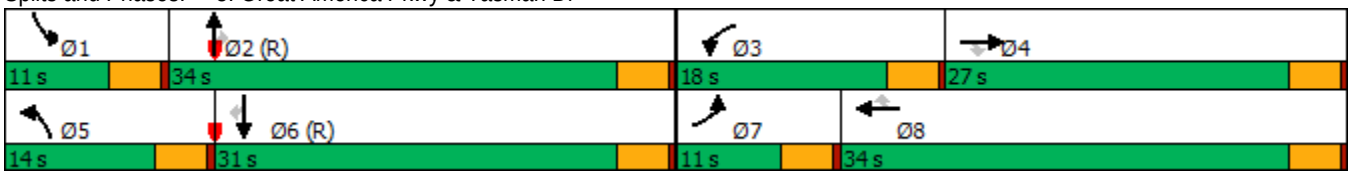
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.62	1.03	0.06	1.01	0.86	0.24	0.92	0.89	0.69	0.45	0.88	1.04
Control Delay	49.9	70.5	0.2	63.2	25.7	6.6	64.1	42.1	24.6	44.5	36.4	70.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Total Delay	49.9	70.5	0.2	63.2	25.7	6.6	64.1	42.1	25.0	44.5	36.4	70.2
LOS	D	E	A	E	C	A	E	D	C	D	D	E
Approach Delay		65.6			38.2			41.5			46.9	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	50	~338	0	~148	327	33	111	301	157	35	305	~358
Queue Length 95th (ft)	83	#463	0	m#237	#437	m36	m#176	#357	m255	62	365	#577
Internal Link Dist (ft)		688			624			1198			776	
Turn Bay Length (ft)	270		110	245		100	170			250		250
Base Capacity (vph)	280	1013	582	758	1308	674	385	1971	805	280	1773	684
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	46	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.62	1.03	0.06	1.01	0.86	0.24	0.92	0.89	0.73	0.44	0.88	1.04

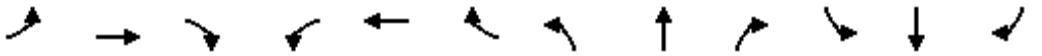
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 45.9 Intersection LOS: D
Intersection Capacity Utilization 87.6% ICU Level of Service E
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Great America Pkwy & Tasman Dr





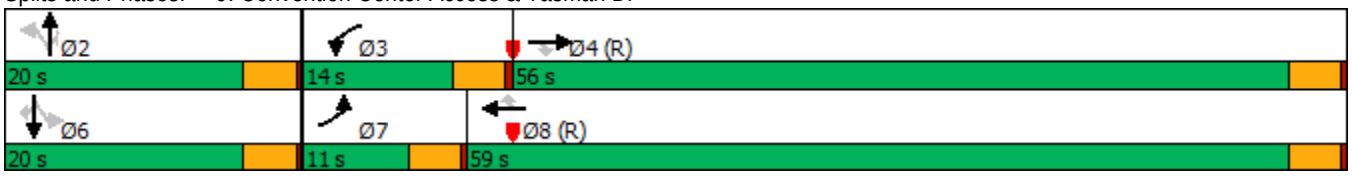
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	1606	96	136	2092	35	55	5	35	16	2	46
Future Volume (vph)	77	1606	96	136	2092	35	55	5	35	16	2	46
Ideal Flow (vphpl)	1879	2040	2100	1879	2040	2100	1744	1938	2100	1879	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	365		95	155		145	0		0	0		0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	70			75			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	1750	3800	1750	3151	1900	1750	1750	1900	1750
Flt Permitted	0.950			0.950			0.757			0.754		
Satd. Flow (perm)	1750	3800	1750	1750	3800	1750	2511	1900	1750	1389	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			61			61			61			61
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		704			936			342			192	
Travel Time (s)		16.0			21.3			7.8			4.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1746	104	148	2274	38	60	5	38	17	2	50
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	11.0	56.0	56.0	14.0	59.0	59.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	12.2%	62.2%	62.2%	15.6%	65.6%	65.6%	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	10.7	60.5	60.5	13.9	66.3	66.3	8.5	8.5	8.5	8.5	8.5	8.5
Actuated g/C Ratio	0.12	0.67	0.67	0.15	0.74	0.74	0.09	0.09	0.09	0.09	0.09	0.09

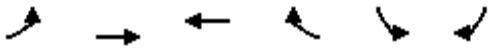
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.41	0.68	0.09	0.55	0.81	0.03	0.25	0.03	0.17	0.13	0.01	0.23
Control Delay	38.1	18.3	5.8	42.5	14.6	0.9	39.8	36.2	6.4	38.7	35.5	10.5
Queue Delay	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	18.9	5.8	42.5	14.6	0.9	39.8	36.2	6.4	38.7	35.5	10.5
LOS	D	B	A	D	B	A	D	D	A	D	D	B
Approach Delay		19.0			16.1			27.3			18.2	
Approach LOS		B			B			C			B	
Queue Length 50th (ft)	34	504	19	78	461	0	16	3	0	9	1	0
Queue Length 95th (ft)	m38	m538	m33	134	#824	6	35	13	16	29	8	27
Internal Link Dist (ft)		624			856			262			112	
Turn Bay Length (ft)	365		95	155		145						
Base Capacity (vph)	211	2554	1196	276	2799	1305	474	358	380	262	358	380
Starvation Cap Reductn	0	371	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.80	0.09	0.54	0.81	0.03	0.13	0.01	0.10	0.06	0.01	0.13

Intersection Summary

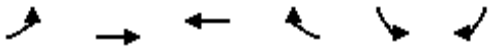
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 17.6 Intersection LOS: B
Intersection Capacity Utilization 76.5% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 9: Convention Center Access & Tasman Dr





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Volume (vph)	0	1623	1965	1	0	166
Future Volume (vph)	0	1623	1965	1	0	166
Ideal Flow (vphpl)	1900	2040	2040	2100	1900	2063
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	3800	3800	1750	0	1750
Flt Permitted						
Satd. Flow (perm)	0	3800	3800	1750	0	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				1		25
Link Speed (mph)		30	30		30	
Link Distance (ft)		936	844		454	
Travel Time (s)		21.3	19.2		10.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1764	2136	1	0	180
Turn Type		NA	NA	Perm		Prot
Protected Phases		4	8			7
Permitted Phases				8		
Detector Phase		4	8	8		7
Switch Phase						
Minimum Initial (s)		4.0	4.0	4.0		4.0
Minimum Split (s)		20.0	20.0	20.0		11.0
Total Split (s)		90.0	72.0	72.0		18.0
Total Split (%)		100.0%	80.0%	80.0%		20.0%
Yellow Time (s)		3.5	3.5	3.5		3.5
All-Red Time (s)		0.5	0.5	0.5		0.5
Lost Time Adjust (s)		-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)		3.0	3.0	3.0		3.0
Lead/Lag			Lag	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes
Recall Mode		Max	Max	Max		None
Act Effct Green (s)		95.9	76.4	76.4		13.5
Actuated g/C Ratio		1.00	0.80	0.80		0.14



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.46	0.71	0.00		0.68
Control Delay		0.4	6.5	2.0		45.5
Queue Delay		0.0	0.2	0.0		0.0
Total Delay		0.4	6.7	2.0		45.5
LOS		A	A	A		D
Approach Delay		0.4	6.7		45.5	
Approach LOS		A	A		D	
Queue Length 50th (ft)		0	262	0		87
Queue Length 95th (ft)		0	340	1		150
Internal Link Dist (ft)		856	764		374	
Turn Bay Length (ft)						
Base Capacity (vph)		3800	3028	1394		295
Starvation Cap Reductn		0	255	0		0
Spillback Cap Reductn		0	0	0		0
Storage Cap Reductn		0	0	0		0
Reduced v/c Ratio		0.46	0.77	0.00		0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 95.9			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 66.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 10: Tasman Dr & Avenue A

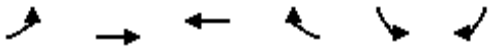
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	168	1340	7	6	1942	574	9	0	4	315	0	83
Future Volume (vph)	168	1340	7	6	1942	574	9	0	4	315	0	83
Ideal Flow (vphpl)	1744	1989	1900	1879	2040	2100	1900	1923	1900	1978	2034	2100
Storage Length (ft)	185		0	195		175	0		0	0		0
Storage Lanes	2		0	1		1	0		0	1		1
Taper Length (ft)	115			75			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.999				0.850		0.961				0.850
Flt Protected	0.950			0.950				0.966		0.950	0.950	
Satd. Flow (prot)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Flt Permitted	0.950			0.950				0.966		0.950	0.950	
Satd. Flow (perm)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				300		89				90
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		844			667			330			406	
Travel Time (s)		19.2			15.2			7.5			9.2	
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
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	183	1465	0	7	2111	624	0	14	0	171	171	90
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	20.0		11.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0
Total Split (s)	11.0	59.0		11.0	59.0	59.0	20.0	20.0		20.0	20.0	20.0
Total Split (%)	10.0%	53.6%		10.0%	53.6%	53.6%	18.2%	18.2%		18.2%	18.2%	18.2%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Act Effct Green (s)	8.0	65.3		7.0	56.2	56.2		6.5		14.2	14.2	14.2
Actuated g/C Ratio	0.09	0.73		0.08	0.63	0.63		0.07		0.16	0.16	0.16
v/c Ratio	0.64	0.54		0.05	0.88	0.51		0.07		0.62	0.60	0.25
Control Delay	52.0	8.0		41.3	20.7	6.6		0.6		45.7	44.6	9.7
Queue Delay	0.0	0.0		0.0	3.8	0.1		0.0		0.0	0.0	0.0
Total Delay	52.0	8.0		41.3	24.5	6.8		0.6		45.7	44.6	9.7
LOS	D	A		D	C	A		A		D	D	A
Approach Delay		12.9			20.5			0.6			37.8	
Approach LOS		B			C			A			D	
Queue Length 50th (ft)	51	130		4	447	71		0		92	92	0
Queue Length 95th (ft)	#108	411		18	#865	206		0		178	177	42
Internal Link Dist (ft)		764			587			250			326	
Turn Bay Length (ft)	185			195		175						
Base Capacity (vph)	284	2711		157	2395	1214		406		334	344	407
Starvation Cap Reductn	0	0		0	214	102		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.64	0.54		0.04	0.97	0.56		0.03		0.51	0.50	0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 89.2			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 19.4		Intersection LOS: B	
Intersection Capacity Utilization 76.0%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Tasman Dr & Centennial Blvd



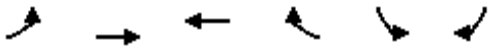
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	736	2469	406	0	56
Future Volume (vph)	0	736	2469	406	0	56
Ideal Flow (vphpl)	1900	2040	2040	2100	1900	2064
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	3800	3800	1750	0	1750
Flt Permitted						
Satd. Flow (perm)	0	3800	3800	1750	0	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				441		9
Link Speed (mph)		30	30		30	
Link Distance (ft)		667	362		382	
Travel Time (s)		15.2	8.2		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	800	2684	441	0	61
Turn Type		NA	NA	Perm		Prot
Protected Phases		4	8			7
Permitted Phases				8		
Detector Phase		4	8	8		7
Switch Phase						
Minimum Initial (s)		4.0	4.0	4.0		4.0
Minimum Split (s)		20.0	20.0	20.0		11.0
Total Split (s)		60.0	49.0	49.0		11.0
Total Split (%)		100.0%	81.7%	81.7%		18.3%
Yellow Time (s)		3.5	3.5	3.5		3.5
All-Red Time (s)		0.5	0.5	0.5		0.5
Lost Time Adjust (s)		-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)		3.0	3.0	3.0		3.0
Lead/Lag			Lag	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes
Recall Mode		None	None	None		None
Act Effct Green (s)		55.6	47.8	47.8		7.5
Actuated g/C Ratio		1.00	0.86	0.86		0.13

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio		0.21	0.82	0.28		0.25
Control Delay		0.1	7.9	0.7		23.3
Queue Delay		0.0	0.0	0.0		0.0
Total Delay		0.1	7.9	0.7		23.3
LOS		A	A	A		C
Approach Delay		0.1	6.9		23.3	
Approach LOS		A	A		C	
Queue Length 50th (ft)		0	268	0		17
Queue Length 95th (ft)		0	#502	12		47
Internal Link Dist (ft)		587	282		302	
Turn Bay Length (ft)						
Base Capacity (vph)		3800	3268	1566		262
Starvation Cap Reductn		0	0	0		0
Spillback Cap Reductn		0	0	0		0
Storage Cap Reductn		0	0	0		0
Reduced v/c Ratio		0.21	0.82	0.28		0.23

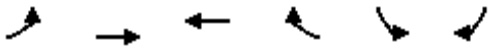
Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 55.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 5.8		Intersection LOS: A	
Intersection Capacity Utilization 73.6%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Tasman Dr & Avenue C



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	89	548	2519	225	389	316
Future Volume (vph)	89	548	2519	225	389	316
Ideal Flow (vphpl)	1744	2040	2040	2100	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	170			120	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	75				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	3800	3800	1750	3151	1750
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	3800	3800	1750	3151	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				224		4
Link Speed (mph)		30	30		30	
Link Distance (ft)		860	819		532	
Travel Time (s)		19.5	18.6		12.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	97	596	2738	245	423	343
Turn Type	Prot	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	7	4	8	1	1	7
Permitted Phases				8		1
Detector Phase	7	4	8	1	1	7
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	11.0	11.0
Total Split (s)	11.0	82.0	71.0	18.0	18.0	11.0
Total Split (%)	11.0%	82.0%	71.0%	18.0%	18.0%	11.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	7.9	78.9	68.0	86.0	15.0	25.9
Actuated g/C Ratio	0.08	0.79	0.68	0.86	0.15	0.26



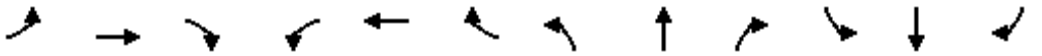
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio	0.39	0.20	1.06	0.16	0.89	0.75
Control Delay	48.7	2.8	53.2	0.4	64.7	45.6
Queue Delay	0.0	0.0	17.8	0.0	0.0	0.0
Total Delay	48.7	2.8	71.0	0.4	64.7	45.6
LOS	D	A	E	A	E	D
Approach Delay		9.2	65.2		56.2	
Approach LOS		A	E		E	
Queue Length 50th (ft)	30	38	~1015	1	138	199
Queue Length 95th (ft)	57	51	#1149	8	#224	#324
Internal Link Dist (ft)		780	739		452	
Turn Bay Length (ft)	170			120		
Base Capacity (vph)	252	3006	2588	1538	473	458
Starvation Cap Reductn	0	0	121	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	0.38	0.20	1.11	0.16	0.89	0.75

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 99.9			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay: 54.9		Intersection LOS: D	
Intersection Capacity Utilization 89.2%		ICU Level of Service E	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 13: Tasman Dr & Calle Del Sol



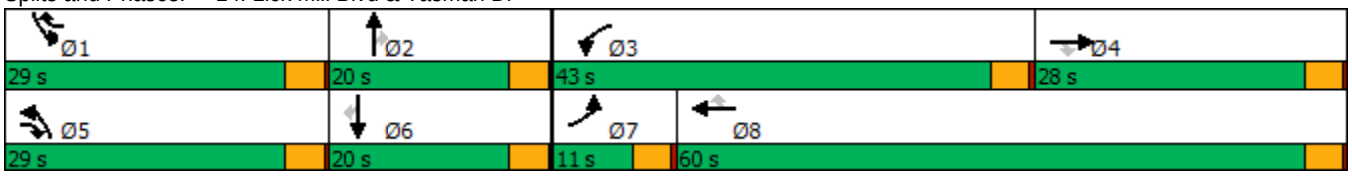
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	633	318	301	1826	283	665	110	345	354	147	95
Future Volume (vph)	31	633	318	301	1826	283	665	110	345	354	147	95
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	1938	2100	1744	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	145		345	160		110	0		100	0		25
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			65			60			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			288			169			375			118
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		819			593			379			387	
Travel Time (s)		18.6			13.5			8.6			8.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	688	346	327	1985	308	723	120	375	385	160	103
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	11.0	28.0	29.0	43.0	60.0	29.0	29.0	20.0	20.0	29.0	20.0	20.0
Total Split (%)	9.2%	23.3%	24.2%	35.8%	50.0%	24.2%	24.2%	16.7%	16.7%	24.2%	16.7%	16.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	7.6	42.1	71.1	18.4	57.1	80.6	26.1	22.6	22.6	20.5	17.0	17.0
Actuated g/C Ratio	0.07	0.36	0.62	0.16	0.49	0.70	0.23	0.20	0.20	0.18	0.15	0.15

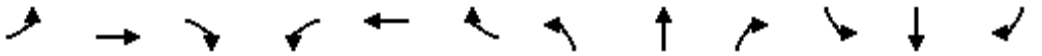
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.30	0.50	0.29	0.65	1.06	0.24	1.02	0.32	0.58	0.69	0.57	0.29
Control Delay	60.0	30.5	2.9	52.0	67.4	3.1	83.5	45.9	8.7	51.4	55.8	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.0	30.5	2.9	52.0	67.4	3.1	83.5	45.9	8.7	51.4	55.8	8.3
LOS	E	C	A	D	E	A	F	D	A	D	E	A
Approach Delay		22.5			58.0			56.8			45.7	
Approach LOS		C			E			E			D	
Queue Length 50th (ft)	26	208	16	124	~918	35	~317	82	0	146	118	0
Queue Length 95th (ft)	60	283	59	165	#1055	57	#438	148	90	189	191	40
Internal Link Dist (ft)		739			513			299			307	
Turn Bay Length (ft)	145		345	160		110			100			25
Base Capacity (vph)	121	1382	1187	1092	1878	1348	710	371	644	710	280	358
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.50	0.29	0.30	1.06	0.23	1.02	0.32	0.58	0.54	0.57	0.29

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 115.6
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.06
Intersection Signal Delay: 49.4 Intersection LOS: D
Intersection Capacity Utilization 91.9% ICU Level of Service F
Analysis Period (min) 15
~ 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.

Splits and Phases: 14: Lick Mill Blvd & Tasman Dr



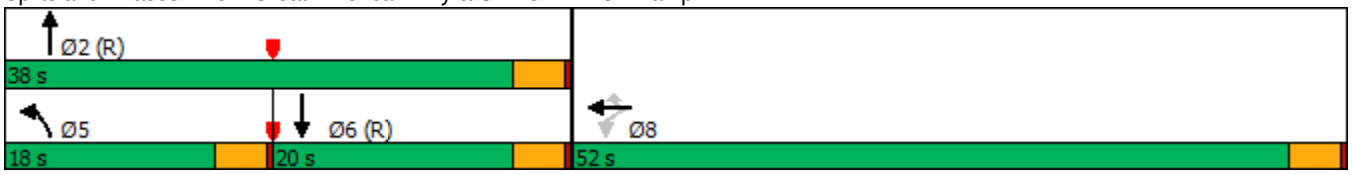


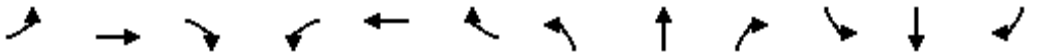
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1714	68	145	431	255	0	0	99	626
Future Volume (vph)	0	0	0	1714	68	145	431	255	0	0	99	626
Ideal Flow (vphpl)	1900	1900	1900	1859	2106	2148	1744	2040	1900	1900	2281	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		460	0		0	0		0
Storage Lanes	0		0	2		2	2		0	0		0
Taper Length (ft)	25			300			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.88	0.97	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt						0.850					0.871	
Flt Protected				0.950	0.958		0.950					
Satd. Flow (prot)	0	0	0	3151	1800	3150	3151	3800	0	0	3701	0
Flt Permitted				0.950	0.958		0.950					
Satd. Flow (perm)	0	0	0	3151	1800	3150	3151	3800	0	0	3701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						158					680	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1157			1153			405			238	
Travel Time (s)		26.3			26.2			9.2			5.4	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				31%								
Lane Group Flow (vph)	0	0	0	1285	652	158	468	277	0	0	788	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0	4.0	4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0	20.0	11.0	20.0			20.0	
Total Split (s)				52.0	52.0	52.0	18.0	38.0			20.0	
Total Split (%)				57.8%	57.8%	57.8%	20.0%	42.2%			22.2%	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				-1.0	-1.0	-1.0	-1.0	-1.0			-1.0	
Total Lost Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				None	None	None	None	C-Max			C-Max	
Act Effct Green (s)				47.9	47.9	47.9	15.2	36.1			17.9	
Actuated g/C Ratio				0.53	0.53	0.53	0.17	0.40			0.20	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.77	0.68	0.09	0.88	0.18			0.62	
Control Delay				20.2	19.6	1.8	59.0	24.0			7.6	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				20.2	19.6	1.8	59.0	24.0			7.6	
LOS				C	B	A	E	C			A	
Approach Delay					18.6			46.0			7.6	
Approach LOS					B			D			A	
Queue Length 50th (ft)				290	272	0	150	60			27	
Queue Length 95th (ft)				379	407	14	#231	121			77	
Internal Link Dist (ft)		1077			1073			325			158	
Turn Bay Length (ft)				150		460						
Base Capacity (vph)				1715	980	1786	531	1523			1281	
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				0.75	0.67	0.09	0.88	0.18			0.62	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 21.9		Intersection LOS: C	
Intersection Capacity Utilization 82.8%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 57: Great America Pkwy & SR 237 WB Off Ramp





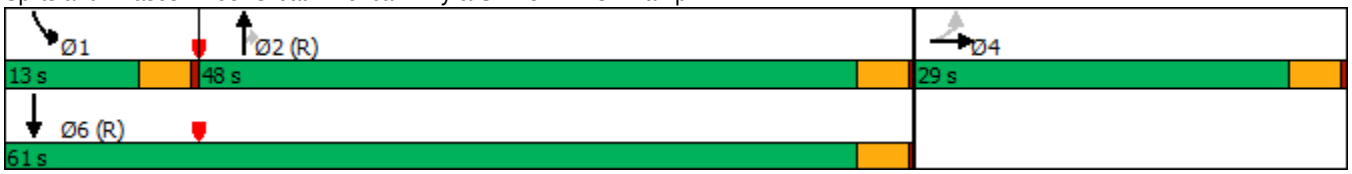
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	179	0	1805	0	0	0	0	501	748	23	1796	0
Future Volume (vph)	179	0	1805	0	0	0	0	501	748	23	1796	0
Ideal Flow (vphpl)	1900	1933	2148	1900	1900	1900	1900	2366	2442	1879	2130	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		240	0		0	0		0	0		0
Storage Lanes	0		2	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	1.00	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor												
Frt			0.850					0.936	0.850			
Flt Protected		0.950								0.950		
Satd. Flow (prot)	0	1800	3150	0	0	0	0	5602	1750	1750	5701	0
Flt Permitted		0.950								0.950		
Satd. Flow (perm)	0	1800	3150	0	0	0	0	5602	1750	1750	5701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			636					299	406			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		609			539			526			405	
Travel Time (s)		13.8			12.3			12.0			9.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	195	1962	0	0	0	0	952	406	25	1952	0
Turn Type	Perm	NA	Free					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		Free						2			
Detector Phase	4	4						2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0						20.0	20.0	11.0	20.0	
Total Split (s)	29.0	29.0						48.0	48.0	13.0	61.0	
Total Split (%)	32.2%	32.2%						53.3%	53.3%	14.4%	67.8%	
Yellow Time (s)	3.5	3.5						3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5						0.5	0.5	0.5	0.5	
Lost Time Adjust (s)		-1.0						-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		3.0						3.0	3.0	3.0	3.0	
Lead/Lag								Lag	Lag	Lead		
Lead-Lag Optimize?								Yes	Yes	Yes		
Recall Mode	None	None						C-Max	C-Max	None	C-Max	
Act Effct Green (s)		16.0	90.0					63.2	63.2	7.8	68.0	
Actuated g/C Ratio		0.18	1.00					0.70	0.70	0.09	0.76	

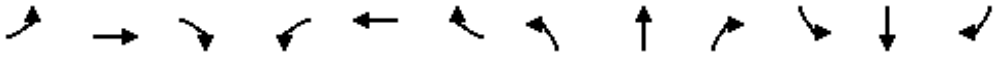
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.61	0.62					0.24	0.30	0.16	0.45	
Control Delay		41.7	0.9					1.9	0.5	25.3	10.1	
Queue Delay		0.0	0.4					0.0	0.0	0.0	0.5	
Total Delay		41.7	1.3					1.9	0.5	25.3	10.6	
LOS		D	A					A	A	C	B	
Approach Delay		5.0						1.5			10.8	
Approach LOS		A						A			B	
Queue Length 50th (ft)		103	0					13	0	13	236	
Queue Length 95th (ft)		160	0					m19	m2	m19	311	
Internal Link Dist (ft)		529			459			446			325	
Turn Bay Length (ft)			240									
Base Capacity (vph)		520	3150					4020	1349	194	4307	
Starvation Cap Reductn		0	0					0	0	0	1706	
Spillback Cap Reductn		0	579					0	0	0	1049	
Storage Cap Reductn		0	0					0	0	0	0	
Reduced v/c Ratio		0.38	0.76					0.24	0.30	0.13	0.75	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 6.2		Intersection LOS: A	
Intersection Capacity Utilization 82.8%		ICU Level of Service E	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 58: Great America Pkwy & SR 237 EB Off Ramp



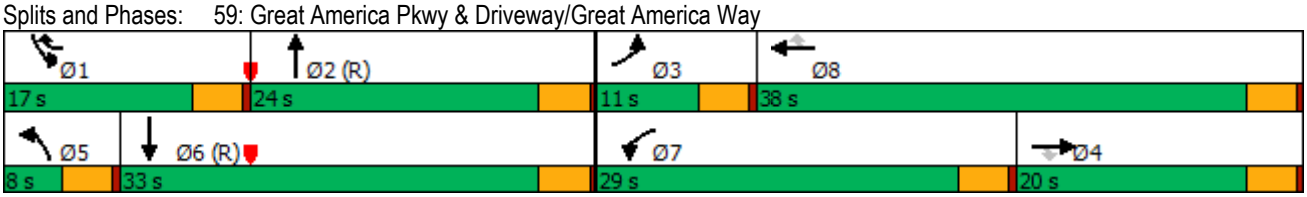


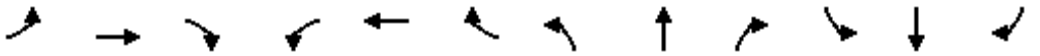
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	3	9	1078	57	202	36	1023	100	485	3013	68
Future Volume (vph)	2	3	9	1078	57	202	36	1023	100	485	3013	68
Ideal Flow (vphpl)	1879	1938	2100	1967	2310	2148	1879	2120	1900	1744	2099	1900
Storage Length (ft)	60		60	115		100	50		0	145		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			65			115			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Frt			0.850			0.850		0.987			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	1832	2265	3150	1750	5600	0	3151	5601	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	1832	2265	3150	1750	5600	0	3151	5601	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206			220		17			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		343			1935			1191			526	
Travel Time (s)		7.8			44.0			27.1			12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	3	10	1172	62	220	39	1112	109	527	3275	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	3	10	1172	62	220	39	1221	0	527	3349	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	4		7	8	1	5	2		1	6	
Permitted Phases			4			8						
Detector Phase	3	4	4	7	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	8.0	8.0	20.0		8.0	20.0	
Total Split (s)	11.0	20.0	20.0	29.0	38.0	17.0	8.0	24.0		17.0	33.0	
Total Split (%)	12.2%	22.2%	22.2%	32.2%	42.2%	18.9%	8.9%	26.7%		18.9%	36.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	6.7	6.7	6.7	26.0	28.0	55.3	8.5	26.6		24.3	46.4	
Actuated g/C Ratio	0.07	0.07	0.07	0.29	0.31	0.61	0.09	0.30		0.27	0.52	
v/c Ratio	0.02	0.02	0.03	2.22	0.09	0.11	0.24	0.73		0.62	1.16	
Control Delay	38.5	38.7	0.2	572.7	26.7	1.0	30.8	39.6		36.4	97.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	38.5	38.7	0.2	572.7	26.7	1.0	30.8	39.6		36.4	97.6	
LOS	D	D	A	F	C	A	C	D		D	F	
Approach Delay		13.0			462.9			39.4			89.3	
Approach LOS		B			F			D			F	
Queue Length 50th (ft)	1	2	0	~1090	31	1	19	238		153	~851	
Queue Length 95th (ft)	8	10	0	m#1266	m33	m2	47	#348		199	#1121	
Internal Link Dist (ft)		263			1855			1111			446	
Turn Bay Length (ft)	60		60	115		100	50			145		
Base Capacity (vph)	155	358	497	529	885	2021	165	1669		852	2892	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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	0.01	0.01	0.02	2.22	0.07	0.11	0.24	0.73		0.62	1.16	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.22			
Intersection Signal Delay: 161.8		Intersection LOS: F	
Intersection Capacity Utilization 131.8%		ICU Level of Service H	
Analysis Period (min) 15			
~ 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.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 59: Great America Pkwy & Driveway/Great America Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	136	8	44	36	4	5	136	1012	85	36	3490	571
Future Volume (vph)	136	8	44	36	4	5	136	1012	85	36	3490	571
Ideal Flow (vphpl)	1744	2101	1900	1879	2002	2148	1879	2118	2442	1879	2137	2442
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		0	80		0	150		0	110		0
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	25			65			25			90		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.874			0.917			0.988			0.979	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	1800	0	1750	1800	0	1750	5601	0	1750	5600	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	1800	0	1750	1800	0	1750	5601	0	1750	5600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			5			21			50	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			381			446			1191	
Travel Time (s)		17.4			8.7			10.1			27.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	57	0	39	9	0	148	1192	0	39	4414	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	11.0	20.0		11.0	20.0		11.0	48.0		11.0	48.0	
Total Split (%)	12.2%	22.2%		12.2%	22.2%		12.2%	53.3%		12.2%	53.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	12.2	8.1		7.6	7.3		15.0	61.7		8.5	51.2	
Actuated g/C Ratio	0.14	0.09		0.08	0.08		0.17	0.69		0.09	0.57	

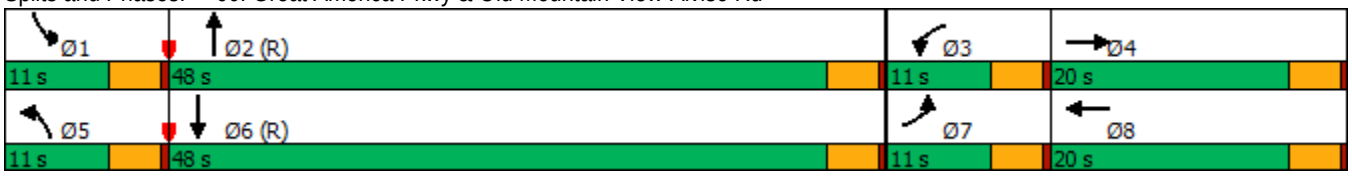
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.35	0.28		0.27	0.06		0.51	0.31		0.24	1.38	
Control Delay	37.5	18.0		43.2	28.8		47.3	3.2		31.7	190.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	37.5	18.0		43.2	28.8		47.3	3.2		31.7	190.0	
LOS	D	B		D	C		D	A		C	F	
Approach Delay		32.1			40.5			8.1			188.6	
Approach LOS		C			D			A			F	
Queue Length 50th (ft)	36	5		21	2		90	37		20	~1283	
Queue Length 95th (ft)	73	40		52	16		m121	45		m21	m#1251	
Internal Link Dist (ft)		684			301			366			1111	
Turn Bay Length (ft)	130			80			150			110		
Base Capacity (vph)	427	378		155	344		292	3847		173	3208	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.35	0.15		0.25	0.03		0.51	0.31		0.23	1.38	

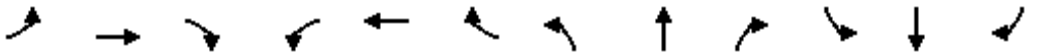
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.38
Intersection Signal Delay: 142.1 Intersection LOS: F
Intersection Capacity Utilization 99.8% ICU Level of Service F
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 60: Great America Pkwy & Old Mountain View-Alviso Rd





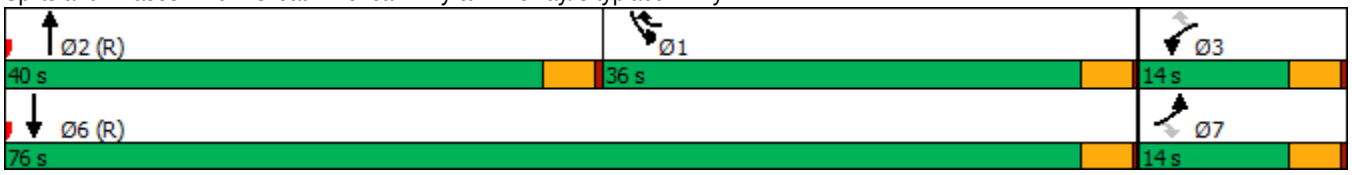
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	200	0	136	0	1147	564	729	3070	0
Future Volume (vph)	0	0	0	200	0	136	0	1147	564	729	3070	0
Ideal Flow (vphpl)	1785	1900	1785	1744	1900	2148	1900	2200	1900	1744	2093	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		200	150		0
Storage Lanes	1		1	2		2	0		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Ped Bike Factor												
Frt						0.850		0.951				
Flt Protected				0.950						0.950		
Satd. Flow (prot)	1750	0	1750	3151	0	3150	0	5600	0	3151	5602	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	1750	0	1750	3151	0	3150	0	5600	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						31		167				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		387			2577			827			446	
Travel Time (s)		8.8			58.6			18.8			10.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	217	0	148	0	1860	0	792	3337	0
Turn Type	Prot		Perm	Prot		pm+ov		NA		Prot	NA	
Protected Phases	7			3		1		2		1	6	
Permitted Phases			7			3						
Detector Phase	7		7	3		1		2		1	6	
Switch Phase												
Minimum Initial (s)	4.0		4.0	4.0		4.0		4.0		4.0	4.0	
Minimum Split (s)	11.0		11.0	11.0		11.0		20.0		11.0	20.0	
Total Split (s)	14.0		14.0	14.0		36.0		40.0		36.0	76.0	
Total Split (%)	15.6%		15.6%	15.6%		40.0%		44.4%		40.0%	84.4%	
Yellow Time (s)	3.5		3.5	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5		0.5		0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0		3.0	3.0		3.0		3.0		3.0	3.0	
Lead/Lag						Lag		Lead		Lag		
Lead-Lag Optimize?						Yes		Yes		Yes		
Recall Mode	None		None	None		None		C-Max		None	C-Max	
Act Effct Green (s)				10.6		46.6		37.4		33.0	73.4	
Actuated g/C Ratio				0.12		0.52		0.42		0.37	0.82	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.58		0.09		0.77		0.69	0.73	
Control Delay				44.3		8.7		20.3		22.1	3.2	
Queue Delay				0.0		0.0		0.0		0.0	38.2	
Total Delay				44.3		8.7		20.3		22.1	41.3	
LOS				D		A		C		C	D	
Approach Delay					29.8			20.3			37.7	
Approach LOS					C			C			D	
Queue Length 50th (ft)				60		17		205		250	53	
Queue Length 95th (ft)				97		34		272		m163	m6	
Internal Link Dist (ft)		307			2497			747			366	
Turn Bay Length (ft)										150		
Base Capacity (vph)				385		1647		2422		1155	4565	
Starvation Cap Reductn				0		0		0		0	1477	
Spillback Cap Reductn				0		0		0		0	0	
Storage Cap Reductn				0		0		0		0	0	
Reduced v/c Ratio				0.56		0.09		0.77		0.69	1.08	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 32.1 Intersection LOS: C
Intersection Capacity Utilization 68.9% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 61: Great America Pkwy & Driveway/Cityplace Pkwy

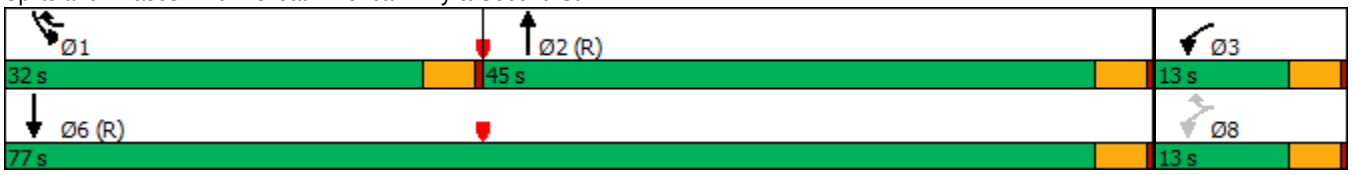


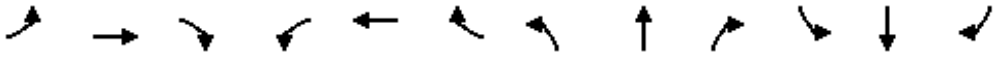
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	246	413	1298	520	798	2472	
Future Volume (vph)	246	413	1298	520	798	2472	
Ideal Flow (vphpl)	1744	2100	2187	1900	1744	2130	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%		0%			0%	
Storage Length (ft)	0	0		300	300		
Storage Lanes	2	1		0	2		
Taper Length (ft)	25				25		
Lane Util. Factor	0.97	1.00	0.91	0.91	0.97	0.91	
Ped Bike Factor							
Frt		0.850	0.957				
Flt Protected	0.950				0.950		
Satd. Flow (prot)	3151	1750	5602	0	3151	5701	
Flt Permitted	0.950				0.950		
Satd. Flow (perm)	3151	1750	5602	0	3151	5701	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		18	150				
Link Speed (mph)	30		30			30	
Link Distance (ft)	989		486			827	
Travel Time (s)	22.5		11.0			18.8	
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%		0%			0%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	267	449	1976	0	867	2687	
Turn Type	pm+pt	pm+ov	NA		Prot	NA	
Protected Phases	3	1	2		1	6	8
Permitted Phases	8	8					
Detector Phase	3	1	2		1	6	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0		11.0	20.0	11.0
Total Split (s)	13.0	32.0	45.0		32.0	77.0	13.0
Total Split (%)	14.4%	35.6%	50.0%		35.6%	85.6%	14%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0		3.0	3.0	
Lead/Lag		Lead	Lag		Lead		
Lead-Lag Optimize?		Yes	Yes		Yes		
Recall Mode	None	None	C-Max		None	C-Max	None
Act Effct Green (s)	10.0	41.3	42.7		28.3	74.0	
Actuated g/C Ratio	0.11	0.46	0.47		0.31	0.82	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
v/c Ratio	0.76	0.55	0.72		0.88	0.57	
Control Delay	54.3	19.9	19.3		30.5	6.7	
Queue Delay	0.0	0.0	0.9		0.0	0.0	
Total Delay	54.3	19.9	20.2		30.5	6.7	
LOS	D	B	C		C	A	
Approach Delay	32.7		20.2			12.5	
Approach LOS	C		C			B	
Queue Length 50th (ft)	77	168	298		264	388	
Queue Length 95th (ft)	#134	259	355		#332	350	
Internal Link Dist (ft)	909		406			747	
Turn Bay Length (ft)					300		
Base Capacity (vph)	350	826	2736		1015	4687	
Starvation Cap Reductn	0	0	437		0	0	
Spillback Cap Reductn	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	
Reduced v/c Ratio	0.76	0.54	0.86		0.85	0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 17.3		Intersection LOS: B	
Intersection Capacity Utilization 74.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 62: Great America Pkwy & Second St





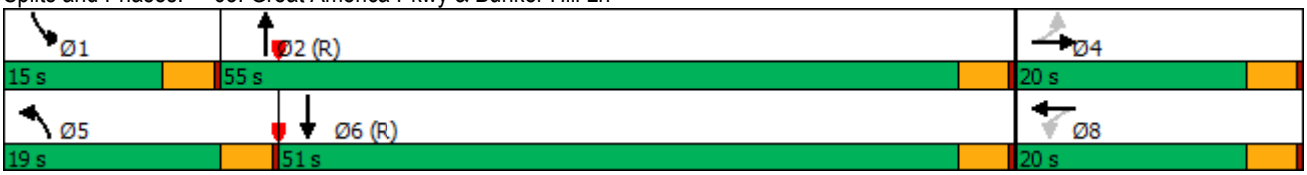
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	8	96	69	11	40	172	1613	169	107	2018	383
Future Volume (vph)	48	8	96	69	11	40	172	1613	169	107	2018	383
Ideal Flow (vphpl)	2065	2329	1000	1879	2250	1900	1879	2122	1900	1879	2144	1900
Storage Length (ft)	130		0	125		0	140		0	145		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			75			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.862			0.883			0.986			0.976	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1923	3740	0	1750	3701	0	1750	5600	0	1750	5601	0
Flt Permitted	0.719			0.681			0.950			0.950		
Satd. Flow (perm)	1456	3740	0	1255	3701	0	1750	5600	0	1750	5601	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		104			43			33			66	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		838			526			856			486	
Travel Time (s)		19.0			12.0			19.5			11.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	113	0	75	55	0	187	1937	0	116	2609	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	20.0	20.0		20.0	20.0		19.0	55.0		15.0	51.0	
Total Split (%)	22.2%	22.2%		22.2%	22.2%		21.1%	61.1%		16.7%	56.7%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	11.6	11.6		11.7	11.7		14.8	62.7		11.4	56.5	
Actuated g/C Ratio	0.13	0.13		0.13	0.13		0.16	0.70		0.13	0.63	
v/c Ratio	0.28	0.20		0.46	0.11		0.65	0.50		0.52	0.74	
Control Delay	37.6	9.0		44.4	14.1		43.4	3.3		44.9	17.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.1	
Total Delay	37.6	9.0		44.4	14.1		43.4	3.3		44.9	17.9	
LOS	D	A		D	B		D	A		D	B	
Approach Delay		18.0			31.6			6.8			19.0	
Approach LOS		B			C			A			B	
Queue Length 50th (ft)	27	2		40	3		116	59		59	98	
Queue Length 95th (ft)	58	24		79	18		m138	71		m100	101	
Internal Link Dist (ft)		758			446			776			406	
Turn Bay Length (ft)	130			125			140			145		
Base Capacity (vph)	275	790		237	733		320	3910		244	3542	
Starvation Cap Reductn	0	0		0	0		0	0		0	134	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	

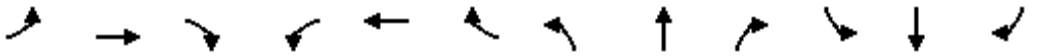
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.14		0.32	0.08		0.58	0.50		0.48	0.77	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 14.3		Intersection LOS: B	
Intersection Capacity Utilization 72.3%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 63: Great America Pkwy & Bunker Hill Ln





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	273	33	346	2	21	19	727	2460	2	146	1543	451
Future Volume (vph)	273	33	346	2	21	19	727	2460	2	146	1543	451
Ideal Flow (vphpl)	1900	1918	2100	1744	2042	2077	1744	2224	1900	1744	2166	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	90		0	220		0	245		0
Storage Lanes	0		1	2		2	2		0	2		0
Taper Length (ft)	25			70			85			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.91	0.91	0.97	0.86	0.86	0.97	0.91	0.91
Ped Bike Factor												
Frt			0.850		0.988	0.850					0.966	
Flt Protected		0.957		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	1750	3151	1800	3150	3151	7501	0	3151	5600	0
Flt Permitted		0.729		0.950			0.950			0.950		
Satd. Flow (perm)	0	1371	1750	3151	1800	3150	3151	7501	0	3151	5600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			235		2	109					92	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		491			565			1390			1278	
Travel Time (s)		11.2			12.8			31.6			29.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	0	333	376	2	25	19	790	2676	0	159	2167	0
Turn Type	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4			8						
Detector Phase	4	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0		11.0	20.0	
Total Split (s)	20.0	20.0	21.0	13.0	33.0	33.0	21.0	46.0		11.0	36.0	
Total Split (%)	22.2%	22.2%	23.3%	14.4%	36.7%	36.7%	23.3%	51.1%		12.2%	40.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lag	Lag	Lead	Lead			Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)		28.0	49.0	6.6	30.0	30.0	18.0	43.0		8.0	33.0	
Actuated g/C Ratio		0.31	0.54	0.07	0.33	0.33	0.20	0.48		0.09	0.37	

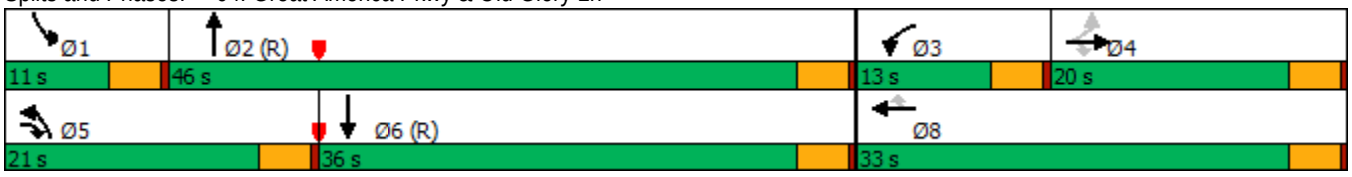
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.78	0.35	0.01	0.04	0.02	1.25	0.75		0.57	1.03	
Control Delay		44.4	5.7	38.5	19.5	0.0	160.1	25.1		25.1	64.3	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		44.4	5.7	38.5	19.5	0.0	160.1	25.1		25.1	64.3	
LOS		D	A	D	B	A	F	C		C	E	
Approach Delay		23.9			12.3			55.9			61.6	
Approach LOS		C			B			E			E	
Queue Length 50th (ft)		165	35	0	9	0	~305	197		41	~446	
Queue Length 95th (ft)		#379	107	4	28	0	#423	449		m46	m#514	
Internal Link Dist (ft)		411			485			1310			1198	
Turn Bay Length (ft)				90			220			245		
Base Capacity (vph)		427	1060	350	601	1122	630	3583		280	2111	
Starvation Cap Reductn		0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0		0	0	
Storage Cap Reductn		0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio		0.78	0.35	0.01	0.04	0.02	1.25	0.75		0.57	1.03	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 54.1 Intersection LOS: D
Intersection Capacity Utilization 90.9% ICU Level of Service E
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 64: Great America Pkwy & Old Glory Ln



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	28	1038	27	14	11	1167	2888	76	156	1736	21
Future Volume (vph)	4	28	1038	27	14	11	1167	2888	76	156	1736	21
Ideal Flow (vphpl)	1879	1938	2100	1744	1913	1900	1744	2233	1900	1879	2130	2100
Storage Length (ft)	100		0	110		0	220		0	370		0
Storage Lanes	1		1	2		0	2		0	1		1
Taper Length (ft)	100			50			65			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.86	0.86	1.00	0.91	1.00
Frt			0.850		0.933			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	3151	1750	0	3151	7501	0	1750	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	3151	1750	0	3151	7501	0	1750	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158		12			8				158
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1004			532			1324			1390	
Travel Time (s)		22.8			12.1			30.1			31.6	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	4	30	1128	29	27	0	1268	3222	0	170	1887	23
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0		11.0	20.0		11.0	20.0	20.0
Total Split (s)	11.0	20.0	30.0	11.0	20.0		30.0	47.0		12.0	29.0	29.0
Total Split (%)	12.2%	22.2%	33.3%	12.2%	22.2%		33.3%	52.2%		13.3%	32.2%	32.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	6.8	8.0	53.7	7.3	10.1		46.6	56.3		16.2	26.0	26.0
Actuated g/C Ratio	0.08	0.09	0.60	0.08	0.11		0.52	0.63		0.18	0.29	0.29
v/c Ratio	0.03	0.18	1.02	0.11	0.13		0.78	0.69		0.54	1.15	0.04
Control Delay	38.8	39.9	50.6	39.1	24.9		25.4	14.3		26.3	113.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	38.8	39.9	50.6	39.1	24.9		25.4	14.3		26.3	113.5	0.0
LOS	D	D	D	D	C		C	B		C	F	A
Approach Delay		50.3			32.3			17.5			105.1	
Approach LOS		D			C			B			F	
Queue Length 50th (ft)	2	16	476	8	8		279	319		57	~483	0
Queue Length 95th (ft)	12	42	#959	21	32		#540	510		m86	m#484	m0
Internal Link Dist (ft)		924			452			1244			1310	
Turn Bay Length (ft)	100			110			220			370		
Base Capacity (vph)	155	358	1106	280	349		1630	4698		316	1646	617
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.03	0.08	1.02	0.10	0.08		0.78	0.69		0.54	1.15	0.04

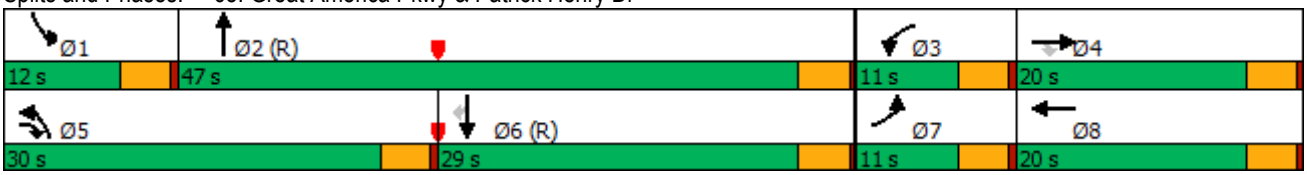
Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 45.9	Intersection LOS: D
Intersection Capacity Utilization 101.4%	ICU Level of Service G
Analysis Period (min) 15	

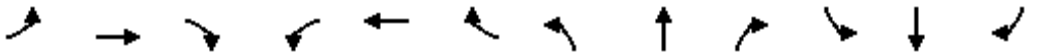
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 65: Great America Pkwy & Patrick Henry Dr





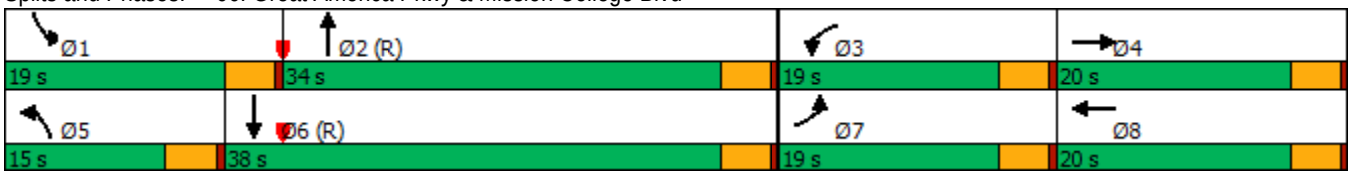
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	466	515	103	958	271	597	470	3019	353	705	1919	229
Future Volume (vph)	466	515	103	958	271	597	470	3019	353	705	1919	229
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	2040	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	220		0	230		50	460		220	180		0
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			90			130			70		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	*0.95	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	7600	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	7600	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			154			413			170			154
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		487			477			2128			1324	
Travel Time (s)		11.1			10.8			48.4			30.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	507	560	112	1041	295	649	511	3282	384	766	2086	249
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free			Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	19.0	20.0		19.0	20.0		15.0	34.0		19.0	38.0	
Total Split (%)	20.7%	21.7%		20.7%	21.7%		16.3%	37.0%		20.7%	41.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	16.0	16.7	92.0	16.0	16.7	92.0	12.3	31.0	92.0	16.3	35.0	92.0
Actuated g/C Ratio	0.17	0.18	1.00	0.17	0.18	1.00	0.13	0.34	1.00	0.18	0.38	1.00

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.67	0.81	0.06	1.90	0.43	0.37	1.21	1.28	0.22	1.37	0.96	0.14
Control Delay	342.7	46.8	0.1	437.1	35.5	0.6	151.8	158.9	0.3	210.2	40.8	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	342.7	46.8	0.1	437.1	35.5	0.6	151.8	158.9	0.3	210.2	40.8	0.2
LOS	F	D	A	F	D	A	F	F	A	F	D	A
Approach Delay		169.6			234.7			143.4			79.4	
Approach LOS		F			F			F			E	
Queue Length 50th (ft)	~434	165	0	~483	80	0	~192	~644	0	~310	426	0
Queue Length 95th (ft)	#627	#240	0	#606	121	0	#292	#709	0	#423	#544	0
Internal Link Dist (ft)		407			397			2048			1244	
Turn Bay Length (ft)	220			230		50	460		220	180		
Base Capacity (vph)	304	702	1750	548	702	1750	422	2560	1750	559	2168	1750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.67	0.80	0.06	1.90	0.42	0.37	1.21	1.28	0.22	1.37	0.96	0.14

Intersection Summary

Area Type: Other
Cycle Length: 92
Actuated Cycle Length: 92
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.90
Intersection Signal Delay: 144.7 Intersection LOS: F
Intersection Capacity Utilization 119.0% ICU Level of Service H
Analysis Period (min) 15
* User Entered Value
~ 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.

Splits and Phases: 66: Great America Pkwy & Mission College Blvd



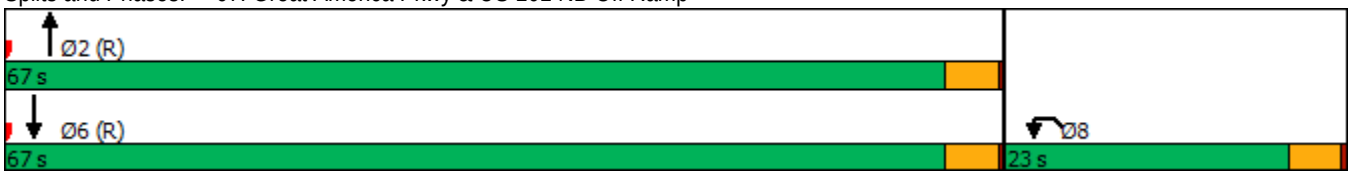
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	3223	0	0	2317	573	2180
Future Volume (vph)	3223	0	0	2317	573	2180
Ideal Flow (vphpl)	2130	1900	1900	2130	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	5701	0	0	5701	3151	1750
Flt Permitted					0.950	
Satd. Flow (perm)	5701	0	0	5701	3151	1750
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						254
Link Speed (mph)	30			30	30	
Link Distance (ft)	948			2128	559	
Travel Time (s)	21.5			48.4	12.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	3503	0	0	2518	623	2370
Turn Type	NA			NA	Prot	Free
Protected Phases	2			6	8	
Permitted Phases						Free
Detector Phase	2			6	8	
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	20.0			20.0	11.0	
Total Split (s)	67.0			67.0	23.0	
Total Split (%)	74.4%			74.4%	25.6%	
Yellow Time (s)	3.5			3.5	3.5	
All-Red Time (s)	0.5			0.5	0.5	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	3.0			3.0	3.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	None	
Act Effct Green (s)	64.1			64.1	19.9	90.0
Actuated g/C Ratio	0.71			0.71	0.22	1.00

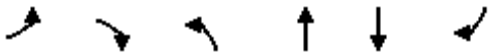
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
v/c Ratio	0.86			0.62	0.90	1.35
Control Delay	6.7			7.5	51.6	174.9
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	6.7			7.5	51.6	174.9
LOS	A			A	D	F
Approach Delay	6.7			7.5	149.2	
Approach LOS	A			A	F	
Queue Length 50th (ft)	248			229	177	~741
Queue Length 95th (ft)	278			267	#274	#1002
Internal Link Dist (ft)	868			2048	479	
Turn Bay Length (ft)						
Base Capacity (vph)	4063			4063	700	1750
Starvation Cap Reductn	0			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.86			0.62	0.89	1.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.35			
Intersection Signal Delay: 54.2		Intersection LOS: D	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			

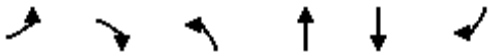
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 67: Great America Pkwy & US 101 NB Off Ramp





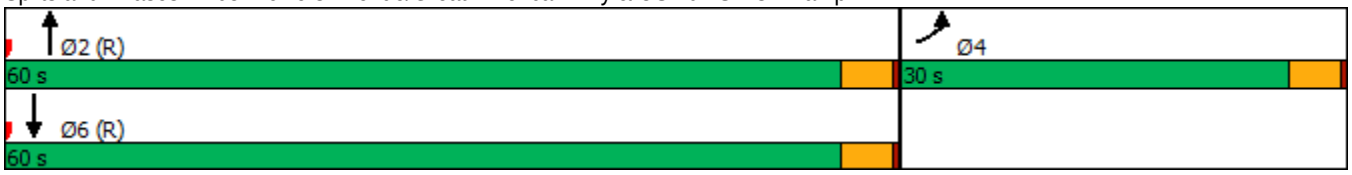
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	784	558	0	2639	1662	0
Future Volume (vph)	784	558	0	2639	1662	0
Ideal Flow (vphpl)	1744	2100	1900	2130	2130	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	2	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3151	1750	0	5701	5701	0
Flt Permitted	0.950					
Satd. Flow (perm)	3151	1750	0	5701	5701	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		361				
Link Speed (mph)	30			30	30	
Link Distance (ft)	423			319	948	
Travel Time (s)	9.6			7.3	21.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	852	607	0	2868	1807	0
Turn Type	Prot	Free		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		Free				
Detector Phase	4			2	6	
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	11.0			20.0	20.0	
Total Split (s)	30.0			60.0	60.0	
Total Split (%)	33.3%			66.7%	66.7%	
Yellow Time (s)	3.5			3.5	3.5	
All-Red Time (s)	0.5			0.5	0.5	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	3.0			3.0	3.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			Max	Max	
Act Effct Green (s)	27.0	90.0		57.0	57.0	
Actuated g/C Ratio	0.30	1.00		0.63	0.63	

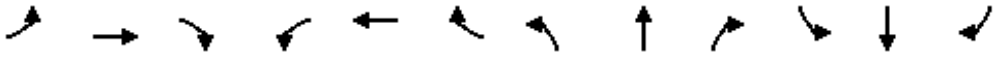


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.90	0.35		0.79	0.50	
Control Delay	44.6	0.5		14.3	6.7	
Queue Delay	0.0	0.0		0.0	0.0	
Total Delay	44.6	0.5		14.3	6.7	
LOS	D	A		B	A	
Approach Delay	26.3			14.3	6.7	
Approach LOS	C			B	A	
Queue Length 50th (ft)	238	0		397	123	
Queue Length 95th (ft)	#349	0		461	142	
Internal Link Dist (ft)	343			239	868	
Turn Bay Length (ft)						
Base Capacity (vph)	945	1750		3610	3610	
Starvation Cap Reductn	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.90	0.35		0.79	0.50	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 14.9		Intersection LOS: B	
Intersection Capacity Utilization 80.0%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 68: Bowers Avenue/Great America Pkwy & US 101 SB Off Ramp





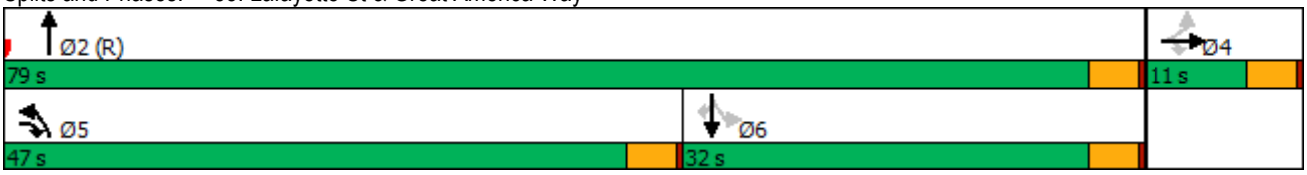
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	0	496	0	0	0	721	828	0	0	240	568
Future Volume (vph)	22	0	496	0	0	0	721	828	0	0	240	568
Ideal Flow (vphpl)	1879	1900	2148	1900	1900	1900	1879	2040	1900	1900	2220	1900
Storage Length (ft)	110		0	0		0	210		0	90		0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	35			25			85			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850									0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1750	1863	1790	0	0	0	1750	3800	0	1863	2176	1583
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1750	1863	1790	0	0	0	1750	3800	0	1863	2176	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			383									266
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1935			133			402			584	
Travel Time (s)		44.0			3.0			9.1			13.3	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	0	539	0	0	0	784	900	0	0	261	617
Turn Type	Perm		pm+ov				Prot	NA		Perm	NA	Perm
Protected Phases		4	5				5	2			6	
Permitted Phases	4		4							6		6
Detector Phase	4	4	5				5	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0				4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0				20.0	20.0		20.0	20.0	20.0
Total Split (s)	11.0	11.0	47.0				47.0	79.0		32.0	32.0	32.0
Total Split (%)	12.2%	12.2%	52.2%				52.2%	87.8%		35.6%	35.6%	35.6%
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5				0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0				-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Lead/Lag			Lead				Lead			Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Recall Mode	Min	Min	None				None	C-Max		None	None	None
Act Effct Green (s)	7.4		53.7				43.3	76.6			30.3	30.3
Actuated g/C Ratio	0.08		0.60				0.48	0.85			0.34	0.34
v/c Ratio	0.17		0.44				0.93	0.28			0.36	0.87
Control Delay	45.6		9.6				41.4	1.6			24.8	31.2
Queue Delay	0.0		0.0				47.0	0.4			0.0	0.0
Total Delay	45.6		9.6				88.4	2.0			24.8	31.2
LOS	D		A				F	A			C	C
Approach Delay		11.1						42.2			29.3	
Approach LOS		B						D			C	
Queue Length 50th (ft)	15		98				391	33			113	202
Queue Length 95th (ft)	m16		m103				#646	44			179	#419
Internal Link Dist (ft)		1855			53			322			504	
Turn Bay Length (ft)	110						210					
Base Capacity (vph)	155		1237				861	3234			732	709
Starvation Cap Reductn	0		0				194	1678			0	0
Spillback Cap Reductn	0		0				0	0			0	0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0		0				0	0			0	0
Reduced v/c Ratio	0.15		0.44				1.18	0.58			0.36	0.87

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 33.0		Intersection LOS: C	
Intersection Capacity Utilization 82.2%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 85: Lafayette St & Great America Way

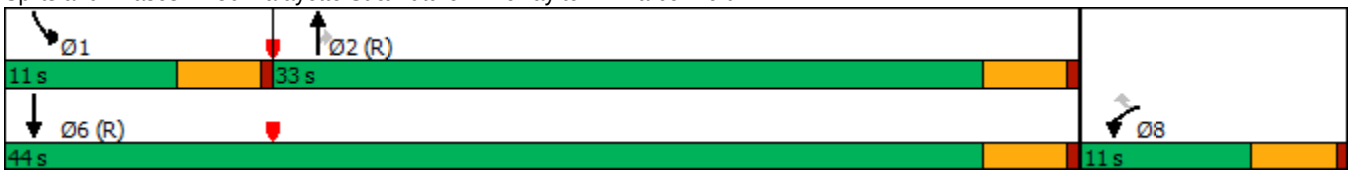


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	5	13	1540	7	185	554
Future Volume (vph)	5	13	1540	7	185	554
Ideal Flow (vphpl)	2059	2308	2040	2100	1879	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	200		400	75	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt	0.912	0.850		0.850		
Flt Protected	0.980				0.950	
Satd. Flow (prot)	3500	1750	3800	1750	1750	3800
Flt Permitted	0.980				0.950	
Satd. Flow (perm)	3500	1750	3800	1750	1750	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	7	7		8		
Link Speed (mph)	30		30			30
Link Distance (ft)	445		1011			402
Travel Time (s)	10.1		23.0			9.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	12	7	1674	8	201	602
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	33.0	33.0	11.0	44.0
Total Split (%)	20.0%	20.0%	60.0%	60.0%	20.0%	80.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	8.0	8.0	30.0	30.0	8.0	41.0
Actuated g/C Ratio	0.15	0.15	0.55	0.55	0.15	0.75

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.02	0.03	0.81	0.01	0.79	0.21
Control Delay	15.5	13.3	14.2	3.6	48.4	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.5	13.3	14.2	3.6	48.4	2.3
LOS	B	B	B	A	D	A
Approach Delay	14.7		14.1			13.9
Approach LOS	B		B			B
Queue Length 50th (ft)	1	0	207	0	65	21
Queue Length 95th (ft)	6	9	292	4	#159	31
Internal Link Dist (ft)	365		931			322
Turn Bay Length (ft)		200		400	75	
Base Capacity (vph)	515	260	2072	958	254	2832
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	0.02	0.03	0.81	0.01	0.79	0.21

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 14.1		Intersection LOS: B	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 86: Lafayette St & Future Driveway to NE Parcel North



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	549	2	1542	1078	66	493
Future Volume (vph)	549	2	1542	1078	66	493
Ideal Flow (vphpl)	1744	2100	2040	2148	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		400	400	
Storage Lanes	2	1		2	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	0.88	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	3150	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	3150	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		2		1172		
Link Speed (mph)	30		30			30
Link Distance (ft)	767		890			1011
Travel Time (s)	17.4		20.2			23.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	597	2	1676	1172	72	536
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	16.0	16.0	33.0	33.0	11.0	44.0
Total Split (%)	26.7%	26.7%	55.0%	55.0%	18.3%	73.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	13.1	13.1	30.3	30.3	7.5	36.4
Actuated g/C Ratio	0.24	0.24	0.55	0.55	0.14	0.66

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.81	0.00	0.81	0.52	0.17	0.22
Control Delay	32.3	14.5	16.0	1.6	23.8	3.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	14.5	16.0	1.6	23.8	3.9
LOS	C	B	B	A	C	A
Approach Delay	32.2		10.1			6.3
Approach LOS	C		B			A
Queue Length 50th (ft)	107	0	260	0	12	29
Queue Length 95th (ft)	#190	5	#421	28	28	44
Internal Link Dist (ft)	687		810			931
Turn Bay Length (ft)				400	400	
Base Capacity (vph)	745	415	2075	2252	459	2836
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	0.80	0.00	0.81	0.52	0.16	0.19

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 55.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 12.8		Intersection LOS: B	
Intersection Capacity Utilization 63.4%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 87: Lafayette St & Jug Handle

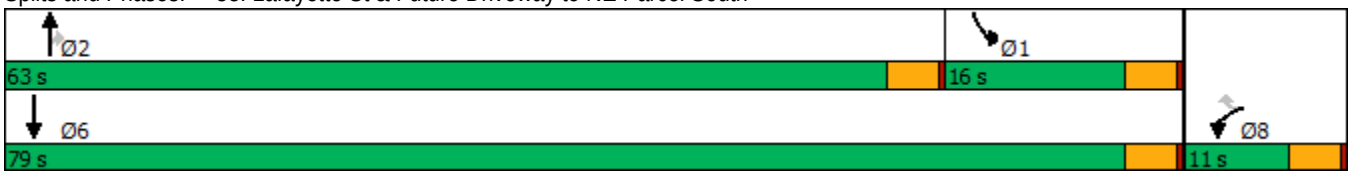
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	75	160	2460	272	348	693
Future Volume (vph)	75	160	2460	272	348	693
Ideal Flow (vphpl)	1744	2100	2040	2100	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		300	200	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	1750	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	1750	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		174		296		
Link Speed (mph)	30		30			30
Link Distance (ft)	625		897			890
Travel Time (s)	14.2		20.4			20.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	82	174	2674	296	378	753
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	63.0	63.0	16.0	79.0
Total Split (%)	12.2%	12.2%	70.0%	70.0%	17.8%	87.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effct Green (s)	7.7	7.7	60.0	60.0	13.0	76.0
Actuated g/C Ratio	0.09	0.09	0.67	0.67	0.14	0.85

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.30	0.56	1.05	0.23	0.83	0.23
Control Delay	41.6	14.1	50.4	1.2	54.2	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.6	14.1	50.4	1.2	54.2	1.5
LOS	D	B	D	A	D	A
Approach Delay	22.9		45.5			19.1
Approach LOS	C		D			B
Queue Length 50th (ft)	22	0	~885	0	109	27
Queue Length 95th (ft)	45	60	#1021	24	#181	36
Internal Link Dist (ft)	545		817			810
Turn Bay Length (ft)				300	200	
Base Capacity (vph)	281	314	2541	1268	456	3218
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	0.29	0.55	1.05	0.23	0.83	0.23

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 89.7
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.05
Intersection Signal Delay: 37.3 Intersection LOS: D
Intersection Capacity Utilization 87.5% ICU Level of Service E
Analysis Period (min) 15
~ 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.

Splits and Phases: 88: Lafayette St & Future Driveway to NE Parcel South



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT	Ø7
Lane Configurations								
Traffic Volume (vph)	115	563	0	2273	50	221	535	
Future Volume (vph)	115	563	0	2273	50	221	535	
Ideal Flow (vphpl)	1879	2100	1785	1993	1900	1879	2040	
Storage Length (ft)	0	0	60		0	120		
Storage Lanes	1	1	1		0	1		
Taper Length (ft)	25		85			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.95	
Frt		0.850		0.997				
Flt Protected	0.950					0.950		
Satd. Flow (prot)	1750	1750	1750	3701	0	1750	3800	
Flt Permitted	0.950					0.950		
Satd. Flow (perm)	1750	1750	1750	3701	0	1750	3800	
Right Turn on Red		Yes			Yes			
Satd. Flow (RTOR)		4		4				
Link Speed (mph)	30			30			30	
Link Distance (ft)	913			479			897	
Travel Time (s)	20.8			10.9			20.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	125	612	0	2471	54	240	582	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	125	612	0	2525	0	240	582	
Turn Type	Prot	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	1	5	2		1	6	7
Permitted Phases		7						
Detector Phase	3	1	5	2		1	6	
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	20.0		11.0	20.0	11.0
Total Split (s)	11.0	24.0	11.0	65.0		24.0	78.0	11.0
Total Split (%)	11.0%	24.0%	11.0%	65.0%		24.0%	78.0%	11%
Yellow Time (s)	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag		Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	Max		None	Max	None
Act Effct Green (s)	8.0	21.0		62.0		21.0	86.0	
Actuated g/C Ratio	0.08	0.21		0.62		0.21	0.86	
v/c Ratio	0.89	1.65		1.10		0.65	0.18	
Control Delay	99.3	334.8		73.1		45.7	1.3	
Queue Delay	0.0	0.0		0.5		0.0	0.0	
Total Delay	99.3	334.8		73.6		45.7	1.3	
LOS	F	F		E		D	A	
Approach Delay	294.8			73.6			14.2	
Approach LOS	F			E			B	
Queue Length 50th (ft)	80	~574		~969		141	20	
Queue Length 95th (ft)	#189	#789		#1108		225	26	
Internal Link Dist (ft)	833			399			817	
Turn Bay Length (ft)						120		
Base Capacity (vph)	140	370		2296		367	3268	
Starvation Cap Reductn	0	0		343		0	0	

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT	Ø7
Spillback Cap Reductn	0	0		0		0	0	
Storage Cap Reductn	0	0		0		0	0	
Reduced v/c Ratio	0.89	1.65		1.29		0.65	0.18	

Intersection Summary	
Area Type:	Other
Cycle Length: 100	
Actuated Cycle Length: 100	
Natural Cycle: 120	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 1.65	
Intersection Signal Delay: 101.6	Intersection LOS: F
Intersection Capacity Utilization 99.6%	ICU Level of Service F
Analysis Period (min) 15	

~ 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.

Splits and Phases: 89: Lafayette St & Calle Del Mundo

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	486	458	0	1872	332	70	683
Future Volume (vph)	486	458	0	1872	332	70	683
Ideal Flow (vphpl)	1744	2100	1836	2040	2100	1879	2040
Storage Length (ft)	0	0	60		130	180	
Storage Lanes	2	1	1		1	1	
Taper Length (ft)	25		85			100	
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850			0.850		
Flt Protected	0.950					0.950	
Satd. Flow (prot)	3151	1750	1800	3800	1750	1750	3800
Flt Permitted	0.950					0.950	
Satd. Flow (perm)	3151	1750	1800	3800	1750	1750	3800
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		10			235		
Link Speed (mph)	30			30			30
Link Distance (ft)	834			760			479
Travel Time (s)	19.0			17.3			10.9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	528	498	0	2035	361	76	742
Turn Type	Prot	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	7	1	5	2		1	6
Permitted Phases		7			2		
Minimum Split (s)	11.0	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	17.0	12.0	11.0	51.0	51.0	12.0	52.0
Total Split (%)	21.3%	15.0%	13.8%	63.8%	63.8%	15.0%	65.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag		Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	14.0	26.0		48.0	48.0	9.0	49.0
Actuated g/C Ratio	0.18	0.32		0.60	0.60	0.11	0.61
v/c Ratio	0.96	0.87		0.89	0.32	0.39	0.32
Control Delay	64.1	42.5		20.5	3.5	39.3	7.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	64.1	42.5		20.5	3.5	39.3	7.9
LOS	E	D		C	A	D	A
Approach Delay	53.6			17.9			10.8
Approach LOS	D			B			B
Queue Length 50th (ft)	136	227		416	25	36	84
Queue Length 95th (ft)	#232	#403		543	60	77	114
Internal Link Dist (ft)	754			680			399
Turn Bay Length (ft)					130	180	
Base Capacity (vph)	551	575		2280	1144	196	2327
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	0.96	0.87		0.89	0.32	0.39	0.32

Intersection Summary

Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green	
Natural Cycle: 80	
Control Type: Pretimed	
Maximum v/c Ratio: 0.96	
Intersection Signal Delay: 25.2	Intersection LOS: C
Intersection Capacity Utilization 80.5%	ICU Level of Service D
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 90: Lafayette St & Calle De Luna

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	162	289	2	282	94	405	91	59	88	95	1
Future Volume (vph)	1	162	289	2	282	94	405	91	59	88	95	1
Ideal Flow (vphpl)	1900	1836	2100	1900	2007	1900	1879	1951	1900	1879	1838	1900
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.963			0.941			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1800	1750	1770	1895	0	1750	1800	0	1750	1800	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1800	1750	1770	1895	0	1750	1800	0	1750	1800	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			314		20			47			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		834			429			532			240	
Travel Time (s)		19.0			9.8			12.1			5.5	
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
Adj. Flow (vph)	1	176	314	2	307	102	440	99	64	96	103	1
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	176	314	2	409	0	440	163	0	96	104	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	7	4	5	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	11.0	22.0	26.0	11.0	22.0		26.0	34.0		13.0	21.0	
Total Split (%)	13.8%	27.5%	32.5%	13.8%	27.5%		32.5%	42.5%		16.3%	26.3%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	6.8	17.8	41.8	6.8	17.9		20.8	24.4		9.0	10.0	
Actuated g/C Ratio	0.11	0.30	0.70	0.11	0.30		0.35	0.41		0.15	0.17	
v/c Ratio	0.00	0.33	0.24	0.01	0.70		0.72	0.21		0.36	0.34	
Control Delay	29.0	20.5	1.2	28.5	27.9		27.0	11.3		29.9	27.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.0	20.5	1.2	28.5	27.9		27.0	11.3		29.9	27.3	
LOS	C	C	A	C	C		C	B		C	C	
Approach Delay		8.2			27.9			22.8			28.5	
Approach LOS		A			C			C			C	
Queue Length 50th (ft)	0	49	0	1	122		130	27		32	34	
Queue Length 95th (ft)	5	122	28	7	#318		#338	77		86	84	
Internal Link Dist (ft)		754			349			452			160	
Turn Bay Length (ft)	100											
Base Capacity (vph)	244	591	1390	244	636		696	987		302	561	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.00	0.30	0.23	0.01	0.64		0.63	0.17		0.32	0.19	

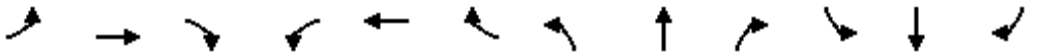
Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 59.5	
Natural Cycle: 80	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.72	
Intersection Signal Delay: 20.5	Intersection LOS: C
Intersection Capacity Utilization 57.4%	ICU Level of Service B
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 114: Calle Del Sol & Calle De Luna

Cumulative + Project Scheme C (Without Lick Mill Connection)

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	915	1101	52	1177	817	147	84	1893	828	397	1457	481
Future Volume (vph)	915	1101	52	1177	817	147	84	1893	828	397	1457	481
Ideal Flow (vphpl)	1744	2040	2100	1733	2040	2100	1744	2130	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	270		110	245		100	170		0	250		250
Storage Lanes	2		1	3		1	2		1	2		1
Taper Length (ft)	115			140			100			65		
Lane Util. Factor	0.97	0.95	1.00	0.94	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82			118			519			446
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			695			1240			859	
Travel Time (s)		17.5			15.8			28.2			19.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	995	1197	57	1279	888	160	91	2058	900	432	1584	523
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	38.0	33.0	33.0	33.0	28.0	28.0	11.0	41.0	41.0	13.0	43.0	43.0
Total Split (%)	31.7%	27.5%	27.5%	27.5%	23.3%	23.3%	9.2%	34.2%	34.2%	10.8%	35.8%	35.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	35.0	30.0	30.0	30.0	25.0	25.0	7.9	38.0	38.0	10.0	40.1	40.1
Actuated g/C Ratio	0.29	0.25	0.25	0.25	0.21	0.21	0.07	0.32	0.32	0.08	0.33	0.33

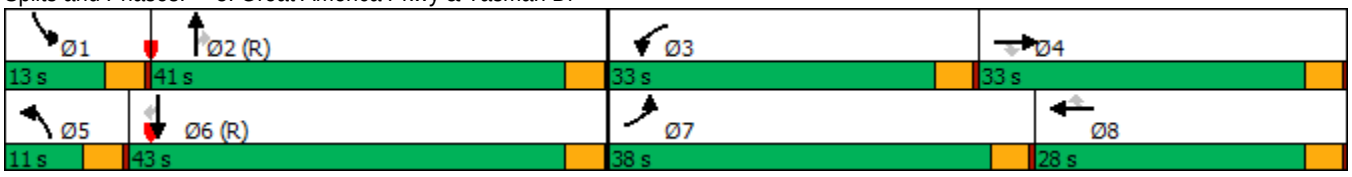
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.08	1.26	0.11	1.12	1.12	0.35	0.44	1.14	0.99	1.65	0.83	0.59
Control Delay	95.2	163.7	3.8	109.1	114.9	14.9	66.2	103.0	44.6	341.9	42.0	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Total Delay	95.2	163.7	3.8	109.1	114.9	15.0	66.2	103.3	44.6	341.9	42.0	12.3
LOS	F	F	A	F	F	B	E	F	D	F	D	B
Approach Delay		129.4			104.8			84.8			86.9	
Approach LOS		F			F			F			F	
Queue Length 50th (ft)	~444	~612	0	~405	~417	27	36	~653	304	~257	312	66
Queue Length 95th (ft)	#574	#748	18	#498	#546	87	m52	m#602	m#314	m#362	371	154
Internal Link Dist (ft)		688			615			1160			779	
Turn Bay Length (ft)	270		110	245		100	170			250		250
Base Capacity (vph)	919	950	499	1138	791	458	210	1805	908	262	1907	882
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	3	0	147	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	1.26	0.11	1.12	1.12	0.35	0.43	1.24	0.99	1.65	0.83	0.59

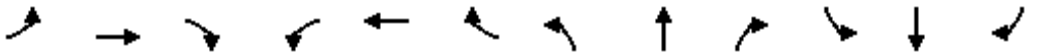
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.65
Intersection Signal Delay: 99.8 Intersection LOS: F
Intersection Capacity Utilization 111.2% ICU Level of Service H
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Great America Pkwy & Tasman Dr



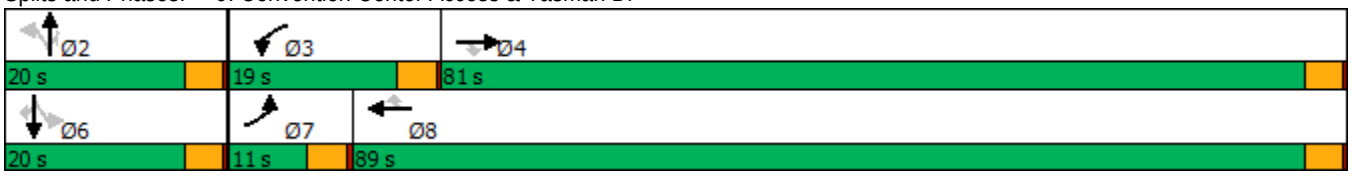


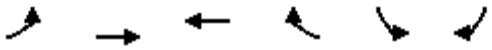
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	2549	87	143	2132	37	193	3	184	41	0	70
Future Volume (vph)	58	2549	87	143	2132	37	193	3	184	41	0	70
Ideal Flow (vphpl)	1879	2040	2100	1879	2040	2100	1744	1938	2100	1879	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	365		95	155		145	0		0	0		0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	70			75			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	1750	3800	1750	3151	1900	1750	1750	1900	1750
Flt Permitted	0.950			0.950			0.757			0.756		
Satd. Flow (perm)	1750	3800	1750	1750	3800	1750	2511	1900	1750	1393	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82			45			139			99
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		695			946			235			146	
Travel Time (s)		15.8			21.5			5.3			3.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	2771	95	155	2317	40	210	3	200	45	0	76
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4			8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	11.0	81.0	81.0	19.0	89.0	89.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	9.2%	67.5%	67.5%	15.8%	74.2%	74.2%	16.7%	16.7%	16.7%	16.7%	16.7%	16.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	Max	Max	None	Max	Max	None	None	None	None	None	None
Act Effct Green (s)	7.8	78.4	78.4	14.6	87.3	87.3	15.0	15.0	15.0	15.0		15.0
Actuated g/C Ratio	0.07	0.67	0.67	0.12	0.75	0.75	0.13	0.13	0.13	0.13		0.13

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.54	1.09	0.08	0.71	0.82	0.03	0.65	0.01	0.58	0.25		0.25
Control Delay	71.8	68.0	2.3	68.1	14.0	1.3	58.9	44.7	23.4	50.0		6.7
Queue Delay	0.0	5.4	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	71.8	73.4	2.3	68.1	14.8	1.3	58.9	44.7	23.4	50.0		6.7
LOS	E	E	A	E	B	A	E	D	C	D		A
Approach Delay		71.1			17.9			41.6			22.8	
Approach LOS		E			B			D			C	
Queue Length 50th (ft)	48	~1286	3	115	590	0	79	2	43	31		0
Queue Length 95th (ft)	#103	#1430	22	#199	728	8	121	12	119	69		28
Internal Link Dist (ft)		615			866			155			66	
Turn Bay Length (ft)	365		95	155		145						
Base Capacity (vph)	119	2547	1200	239	2836	1317	365	276	373	202		339
Starvation Cap Reductn	0	247	0	0	248	0	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0		0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0		0
Reduced v/c Ratio	0.53	1.20	0.08	0.65	0.90	0.03	0.58	0.01	0.54	0.22		0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 117			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 45.7		Intersection LOS: D	
Intersection Capacity Utilization 96.3%		ICU Level of Service F	
Analysis Period (min) 15			
~ 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.			

Splits and Phases: 9: Convention Center Access & Tasman Dr





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑	↱		↱
Traffic Volume (vph)	0	2619	1193	16	0	1020
Future Volume (vph)	0	2619	1193	16	0	1020
Ideal Flow (vphpl)	1900	2040	2040	2100	1900	2063
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	3800	3800	1750	0	1750
Flt Permitted						
Satd. Flow (perm)	0	3800	3800	1750	0	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				13		6
Link Speed (mph)		30	30		30	
Link Distance (ft)		946	835		454	
Travel Time (s)		21.5	19.0		10.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	2847	1297	17	0	1109
Turn Type		NA	NA	Perm		Prot
Protected Phases		4	8			7
Permitted Phases				8		
Detector Phase		4	8	8		7
Switch Phase						
Minimum Initial (s)		4.0	4.0	4.0		4.0
Minimum Split (s)		20.0	20.0	20.0		11.0
Total Split (s)		120.0	45.0	45.0		75.0
Total Split (%)		100.0%	37.5%	37.5%		62.5%
Maximum Green (s)		116.0	41.0	41.0		71.0
Yellow Time (s)		3.5	3.5	3.5		3.5
All-Red Time (s)		0.5	0.5	0.5		0.5
Lost Time Adjust (s)		-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)		3.0	3.0	3.0		3.0
Lead/Lag			Lag	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes
Vehicle Extension (s)		3.0	3.0	3.0		3.0
Minimum Gap (s)		3.0	3.0	3.0		3.0

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time Before Reduce (s)		0.0	0.0	0.0		0.0
Time To Reduce (s)		0.0	0.0	0.0		0.0
Recall Mode		Max	Max	Max		Max
Walk Time (s)		5.0	5.0	5.0		
Flash Dont Walk (s)		11.0	11.0	11.0		
Pedestrian Calls (#/hr)		0	0	0		
Act Effct Green (s)		120.0	42.0	42.0		72.0
Actuated g/C Ratio		1.00	0.35	0.35		0.60
v/c Ratio		0.75	0.98	0.03		1.05
Control Delay		1.4	58.2	14.1		67.9
Queue Delay		0.0	0.0	0.0		0.0
Total Delay		1.4	58.2	14.1		67.9
LOS		A	E	B		E
Approach Delay		1.4	57.6		67.9	
Approach LOS		A	E		E	
Queue Length 50th (ft)		0	518	2		~939
Queue Length 95th (ft)		0	#673	18		#1200
Internal Link Dist (ft)		866	755		374	
Turn Bay Length (ft)						
Base Capacity (vph)		3800	1330	620		1052
Starvation Cap Reductn		0	0	0		0
Spillback Cap Reductn		0	0	0		0
Storage Cap Reductn		0	0	0		0
Reduced v/c Ratio		0.75	0.98	0.03		1.05

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 4:EBT and 8:WBT, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 29.4		Intersection LOS: C	
Intersection Capacity Utilization 95.5%		ICU Level of Service F	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 10: Tasman Dr & Avenue A

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	2030	33	21	952	105	22	10	26	1047	1	100
Future Volume (vph)	370	2030	33	21	952	105	22	10	26	1047	1	100
Ideal Flow (vphpl)	1744	1991	1900	1879	2040	2100	1900	1936	1900	1978	2030	2100
Storage Length (ft)	185		0	195		175	0		0	0		0
Storage Lanes	2		0	1		1	0		0	1		1
Taper Length (ft)	115			75			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.998				0.850		0.940				0.850
Flt Protected	0.950			0.950				0.981		0.950	0.952	
Satd. Flow (prot)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Flt Permitted	0.950			0.950				0.981		0.950	0.952	
Satd. Flow (perm)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				95		22				95
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		835			681			315			406	
Travel Time (s)		19.0			15.5			7.2			9.2	
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
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	402	2243	0	23	1035	114	0	63	0	569	570	109
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Minimum Split (s)	11.0	22.0		11.0	22.0	22.0	22.0	22.0		22.0	22.0	22.0
Total Split (s)	29.0	74.0		11.0	56.0	56.0	23.0	23.0		42.0	42.0	42.0
Total Split (%)	19.3%	49.3%		7.3%	37.3%	37.3%	15.3%	15.3%		28.0%	28.0%	28.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Act Effct Green (s)	26.0	71.0		8.0	53.0	53.0		20.0		39.0	39.0	39.0
Actuated g/C Ratio	0.17	0.47		0.05	0.35	0.35		0.13		0.26	0.26	0.26
v/c Ratio	0.74	1.28		0.25	0.77	0.17		0.25		1.25	1.22	0.21
Control Delay	67.8	165.0		75.0	47.8	9.2		42.2		174.9	162.3	11.5
Queue Delay	0.0	0.2		0.0	1.2	0.0		0.0		0.0	0.0	0.0
Total Delay	67.8	165.2		75.0	49.1	9.2		42.2		174.9	162.3	11.5
LOS	E	F		E	D	A		D		F	F	B
Approach Delay		150.4			45.7			42.2			154.8	
Approach LOS		F			D			D			F	
Queue Length 50th (ft)	194	~1466		22	473	12		36		~729	~717	10
Queue Length 95th (ft)	256	#1595		55	558	56		84		#976	#965	60
Internal Link Dist (ft)		755			601			235			326	
Turn Bay Length (ft)	185			195		175						
Base Capacity (vph)	546	1752		93	1342	679		252		455	468	525
Starvation Cap Reductn	0	114		0	135	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.74	1.37		0.25	0.86	0.17		0.25		1.25	1.22	0.21

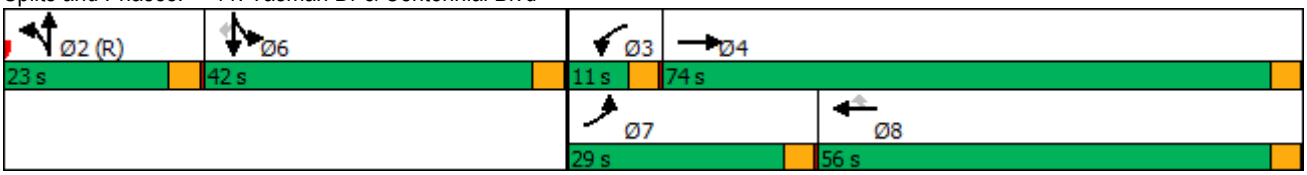
Intersection Summary

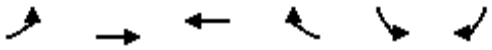
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 1.28			
Intersection Signal Delay: 126.2		Intersection LOS: F	
Intersection Capacity Utilization 102.4%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

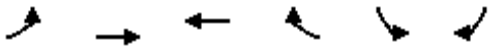
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Tasman Dr & Centennial Blvd





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	3338	813	504	0	423
Future Volume (vph)	0	3338	813	504	0	423
Ideal Flow (vphpl)	1900	2040	2040	2100	1900	2063
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	300			0	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor						
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	3800	3800	1750	0	1750
Flt Permitted						
Satd. Flow (perm)	0	3800	3800	1750	0	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				548		80
Link Speed (mph)		30	30		30	
Link Distance (ft)		681	1177		382	
Travel Time (s)		15.5	26.8		8.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	3628	884	548	0	460
Turn Type		NA	NA	Perm		Prot
Protected Phases		4	8			7
Permitted Phases				8		
Detector Phase		4	8	8		7
Switch Phase						
Minimum Initial (s)		4.0	4.0	4.0		4.0
Minimum Split (s)		20.0	20.0	20.0		11.0
Total Split (s)		40.0	21.0	21.0		19.0
Total Split (%)		100.0%	52.5%	52.5%		47.5%
Maximum Green (s)		36.0	17.0	17.0		15.0
Yellow Time (s)		3.5	3.5	3.5		3.5
All-Red Time (s)		0.5	0.5	0.5		0.5
Lost Time Adjust (s)		-1.0	-1.0	-1.0		-1.0
Total Lost Time (s)		3.0	3.0	3.0		3.0
Lead/Lag			Lag	Lag		Lead
Lead-Lag Optimize?			Yes	Yes		Yes
Vehicle Extension (s)		3.0	3.0	3.0		3.0
Minimum Gap (s)		3.0	3.0	3.0		3.0

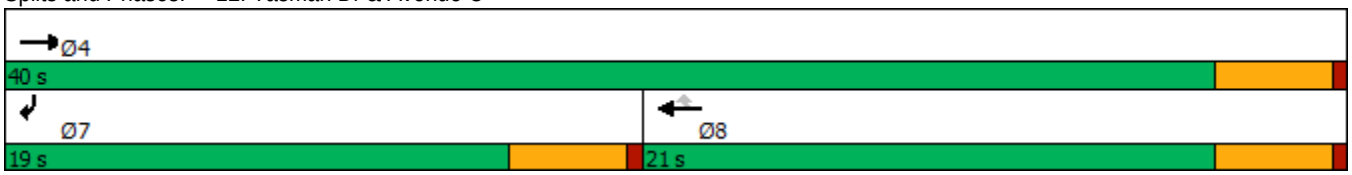


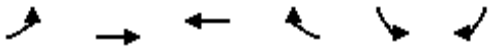
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Time Before Reduce (s)		0.0	0.0	0.0		0.0
Time To Reduce (s)		0.0	0.0	0.0		0.0
Recall Mode		None	None	None		Max
Walk Time (s)		5.0	5.0	5.0		5.0
Flash Dont Walk (s)		11.0	11.0	11.0		2.0
Pedestrian Calls (#/hr)		0	0	0		0
Act Effct Green (s)		40.0	18.0	18.0		16.0
Actuated g/C Ratio		1.00	0.45	0.45		0.40
v/c Ratio		0.95	0.52	0.50		0.61
Control Delay		9.6	9.2	2.8		12.1
Queue Delay		0.0	0.0	0.0		0.0
Total Delay		9.6	9.2	2.8		12.1
LOS		A	A	A		B
Approach Delay		9.6	6.8		12.1	
Approach LOS		A	A		B	
Queue Length 50th (ft)		0	67	0		61
Queue Length 95th (ft)		#82	104	36		129
Internal Link Dist (ft)		601	1097		302	
Turn Bay Length (ft)						
Base Capacity (vph)		3800	1710	1088		748
Starvation Cap Reductn		0	0	0		0
Spillback Cap Reductn		0	0	0		0
Storage Cap Reductn		0	0	0		0
Reduced v/c Ratio		0.95	0.52	0.50		0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 40			
Actuated Cycle Length: 40			
Natural Cycle: 40			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.95			
Intersection Signal Delay: 9.1		Intersection LOS: A	
Intersection Capacity Utilization 89.3%		ICU Level of Service E	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 12: Tasman Dr & Avenue C





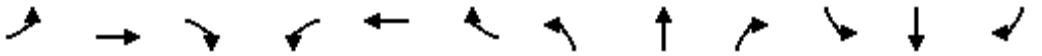
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	220	2571	1074	288	291	141
Future Volume (vph)	220	2571	1074	288	291	141
Ideal Flow (vphpl)	1744	2040	2040	2100	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	170			120	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	75				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	3800	3800	1750	3151	1750
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	3800	3800	1750	3151	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				101		76
Link Speed (mph)		30	30		30	
Link Distance (ft)		1177	775		490	
Travel Time (s)		26.8	17.6		11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	2795	1167	313	316	153
Turn Type	Prot	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	7	4	8	1	1	7
Permitted Phases				8		1
Detector Phase	7	4	8	1	1	7
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	11.0	11.0
Total Split (s)	11.0	49.0	38.0	11.0	11.0	11.0
Total Split (%)	18.3%	81.7%	63.3%	18.3%	18.3%	18.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	8.0	46.0	35.0	46.0	8.0	19.0
Actuated g/C Ratio	0.13	0.77	0.58	0.77	0.13	0.32

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio	0.57	0.96	0.53	0.23	0.75	0.25
Control Delay	30.3	17.5	8.6	1.7	38.6	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.3	17.5	8.6	1.7	38.6	9.6
LOS	C	B	A	A	D	A
Approach Delay		18.5	7.1		29.2	
Approach LOS		B	A		C	
Queue Length 50th (ft)	42	311	117	14	57	20
Queue Length 95th (ft)	73	#682	161	27	#111	56
Internal Link Dist (ft)		1097	695		410	
Turn Bay Length (ft)	170			120		
Base Capacity (vph)	420	2913	2216	1365	420	606
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	0.57	0.96	0.53	0.23	0.75	0.25

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Tasman Dr & Calle Del Sol



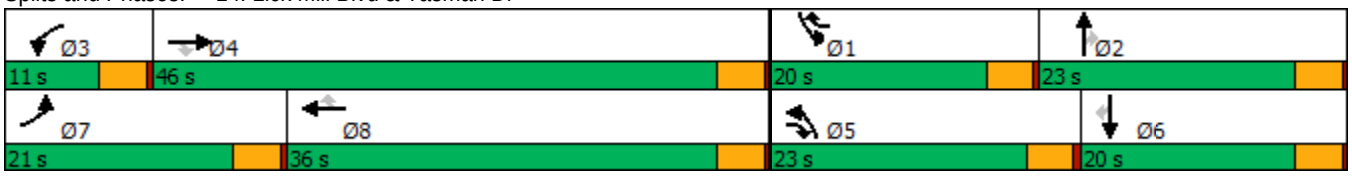
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	1652	1123	308	816	324	445	135	421	387	152	176
Future Volume (vph)	161	1652	1123	308	816	324	445	135	421	387	152	176
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	1938	2100	1744	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	145		345	160		110	0		100	0		25
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			65			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			216			312			142			142
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		775			593			379			432	
Travel Time (s)		17.6			13.5			8.6			9.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	175	1796	1221	335	887	352	484	147	458	421	165	191
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	21.0	46.0	23.0	11.0	36.0	20.0	23.0	23.0	23.0	20.0	20.0	20.0
Total Split (%)	21.0%	46.0%	23.0%	11.0%	36.0%	20.0%	23.0%	23.0%	23.0%	20.0%	20.0%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	15.3	43.0	66.0	8.0	35.7	55.3	20.0	20.4	20.4	16.6	17.0	17.0
Actuated g/C Ratio	0.15	0.43	0.66	0.08	0.36	0.55	0.20	0.20	0.20	0.17	0.17	0.17

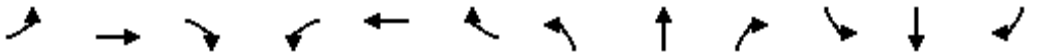
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.65	1.10	0.99	1.33	0.65	0.32	0.77	0.38	0.97	0.81	0.51	0.46
Control Delay	51.3	83.3	39.7	210.4	30.3	3.0	47.1	37.9	64.6	53.2	44.0	15.4
Queue Delay	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.3	83.3	50.7	210.4	30.3	3.0	47.1	37.9	64.6	53.2	44.0	15.4
LOS	D	F	D	F	C	A	D	D	E	D	D	B
Approach Delay		69.1			62.5			53.2			42.0	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	105	~687	618	~143	250	11	151	82	212	134	97	27
Queue Length 95th (ft)	172	#825	#1014	#232	329	54	#209	141	#419	#202	163	91
Internal Link Dist (ft)		695			513			299			352	
Turn Bay Length (ft)	145		345	160		110			100			25
Base Capacity (vph)	315	1634	1228	252	1356	1112	630	388	470	535	323	415
Starvation Cap Reductn	0	0	46	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.56	1.10	1.03	1.33	0.65	0.32	0.77	0.38	0.97	0.79	0.51	0.46

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Natural Cycle: 140
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.33
Intersection Signal Delay: 61.7 Intersection LOS: E
Intersection Capacity Utilization 90.3% ICU Level of Service E
Analysis Period (min) 15
~ 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.

Splits and Phases: 14: Lick Mill Blvd & Tasman Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	1462	2	327	1166	1150	0	0	162	545
Future Volume (vph)	0	0	0	1462	2	327	1166	1150	0	0	162	545
Ideal Flow (vphpl)	1900	1900	1900	1859	2117	2148	1744	2040	1900	1900	2247	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	150		460	0		0	0		0
Storage Lanes	0		0	2		2	2		0	0		0
Taper Length (ft)	25			300			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.91	0.91	0.88	0.97	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor												
Frt						0.850					0.884	
Flt Protected				0.950	0.953		0.950					
Satd. Flow (prot)	0	0	0	3151	1800	3150	3151	3800	0	0	3700	0
Flt Permitted				0.950	0.953		0.950					
Satd. Flow (perm)	0	0	0	3151	1800	3150	3151	3800	0	0	3700	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						51					569	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		313			737			363			260	
Travel Time (s)		7.1			16.8			8.3			5.9	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)				33%								
Lane Group Flow (vph)	0	0	0	1065	526	355	1267	1250	0	0	768	0
Turn Type				Perm	NA	Perm	Prot	NA			NA	
Protected Phases					8		5	2			6	
Permitted Phases				8		8						
Detector Phase				8	8	8	5	2			6	
Switch Phase												
Minimum Initial (s)				4.0	4.0	4.0	4.0	4.0			4.0	
Minimum Split (s)				20.0	20.0	20.0	11.0	20.0			20.0	
Total Split (s)				61.0	61.0	61.0	43.0	59.0			16.0	
Total Split (%)				50.8%	50.8%	50.8%	35.8%	49.2%			13.3%	
Yellow Time (s)				3.5	3.5	3.5	3.5	3.5			3.5	
All-Red Time (s)				0.5	0.5	0.5	0.5	0.5			0.5	
Lost Time Adjust (s)				-1.0	-1.0	-1.0	-1.0	-1.0			-1.0	
Total Lost Time (s)				3.0	3.0	3.0	3.0	3.0			3.0	
Lead/Lag							Lead				Lag	
Lead-Lag Optimize?							Yes				Yes	
Recall Mode				None	None	None	None	C-Max			C-Max	
Act Effct Green (s)				55.4	55.4	55.4	42.6	58.6			13.0	
Actuated g/C Ratio				0.46	0.46	0.46	0.36	0.49			0.11	

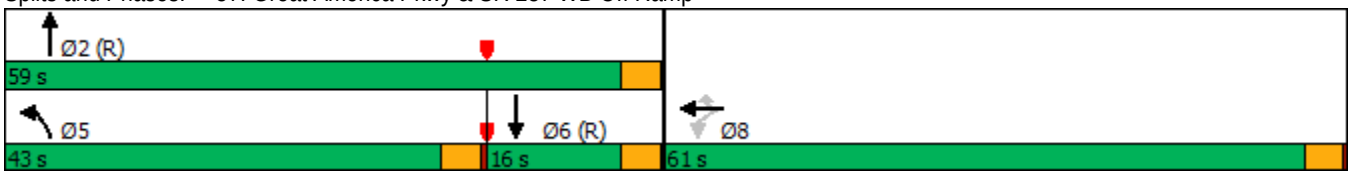
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.73	0.63	0.24	1.13	0.67			0.85	
Control Delay				29.5	28.2	16.6	100.7	21.5			23.2	
Queue Delay				34.7	7.6	0.0	0.8	10.6			5.1	
Total Delay				64.2	35.8	16.6	101.5	32.1			28.3	
LOS				E	D	B	F	C			C	
Approach Delay					47.9			67.0			28.3	
Approach LOS					D			E			C	
Queue Length 50th (ft)				343	317	74	~615	310			77	
Queue Length 95th (ft)				427	445	108	m#689	m351			#158	
Internal Link Dist (ft)		233			657			283			180	
Turn Bay Length (ft)				150		460						
Base Capacity (vph)				1522	870	1548	1119	1857			908	
Starvation Cap Reductn				0	0	0	167	591			0	
Spillback Cap Reductn				520	297	0	0	0			93	
Storage Cap Reductn				0	0	0	0	0			0	
Reduced v/c Ratio				1.06	0.92	0.23	1.33	0.99			0.94	

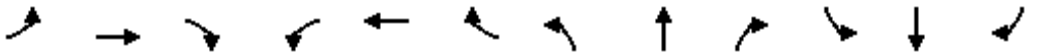
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 51 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 54.2 Intersection LOS: D
Intersection Capacity Utilization 93.3% ICU Level of Service F
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 57: Great America Pkwy & SR 237 WB Off Ramp





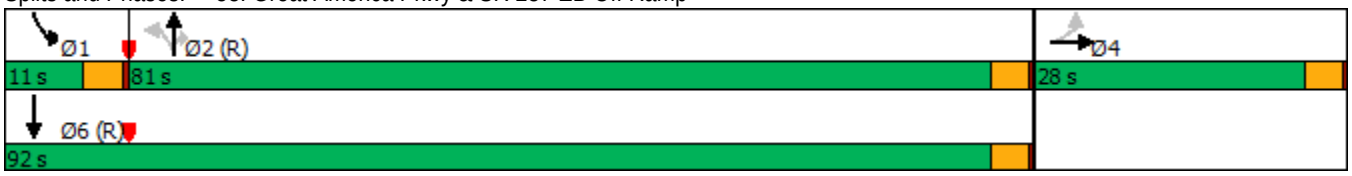
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	11	593	0	0	0	1	2018	2026	95	1586	0
Future Volume (vph)	293	11	593	0	0	0	1	2018	2026	95	1586	0
Ideal Flow (vphpl)	1900	1924	2148	1900	1900	1900	1900	2331	2442	1879	2130	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		240	0		0	0		0	0		0
Storage Lanes	0		2	0		0	0		1	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.91	0.86	0.86	1.00	0.91	1.00
Ped Bike Factor												
Frt			0.850					0.950	0.850			
Flt Protected		0.954								0.950		
Satd. Flow (prot)	0	1800	3150	0	0	0	0	5601	1750	1750	5701	0
Flt Permitted		0.954						0.940		0.950		
Satd. Flow (perm)	0	1800	3150	0	0	0	0	5265	1750	1750	5701	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			493					215	817			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		585			288			553			363	
Travel Time (s)		13.3			6.5			12.6			8.3	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)									50%			
Lane Group Flow (vph)	0	330	645	0	0	0	0	3295	1101	103	1724	0
Turn Type	Perm	NA	Free				Perm	NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		Free				2		2			
Detector Phase	4	4					2	2	2	1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0					4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0					20.0	20.0	20.0	11.0	20.0	
Total Split (s)	28.0	28.0					81.0	81.0	81.0	11.0	92.0	
Total Split (%)	23.3%	23.3%					67.5%	67.5%	67.5%	9.2%	76.7%	
Yellow Time (s)	3.5	3.5					3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5					0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)		-1.0						-1.0	-1.0	-1.0	-1.0	
Total Lost Time (s)		3.0						3.0	3.0	3.0	3.0	
Lead/Lag							Lag	Lag	Lag	Lead		
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		
Recall Mode	None	None					C-Max	C-Max	C-Max	None	C-Max	
Act Effct Green (s)		24.3	120.0					78.1	78.1	8.5	89.7	
Actuated g/C Ratio		0.20	1.00					0.65	0.65	0.07	0.75	

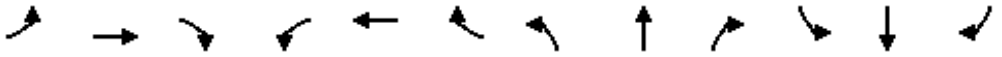
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		0.90	0.20					0.94	0.77	0.83	0.40	
Control Delay		75.3	0.1					8.9	2.6	73.2	22.1	
Queue Delay		51.2	0.0					44.7	9.1	0.0	48.7	
Total Delay		126.5	0.1					53.7	11.7	73.2	70.9	
LOS		F	A					D	B	E	E	
Approach Delay		42.9						43.2			71.0	
Approach LOS		D						D			E	
Queue Length 50th (ft)		250	0					207	29	80	451	
Queue Length 95th (ft)		#415	0					m151	m10	m#149	500	
Internal Link Dist (ft)		505			208			473			283	
Turn Bay Length (ft)			240									
Base Capacity (vph)		375	3150					3503	1424	124	4260	
Starvation Cap Reductn		0	0					628	298	0	2829	
Spillback Cap Reductn		84	0					566	0	0	0	
Storage Cap Reductn		0	0					0	0	0	0	
Reduced v/c Ratio		1.13	0.20					1.15	0.98	0.83	1.20	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.94
Intersection Signal Delay: 50.2 Intersection LOS: D
Intersection Capacity Utilization 119.0% ICU Level of Service H
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 58: Great America Pkwy & SR 237 EB Off Ramp





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	82	23	136	9	414	21	3468	1051	188	1264	7
Future Volume (vph)	60	82	23	136	9	414	21	3468	1051	188	1264	7
Ideal Flow (vphpl)	1879	1938	2100	1967	2493	2210	1879	2169	2100	1744	2095	1900
Storage Length (ft)	60		60	115		100	50		0	150		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			65			115			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Frt			0.850			0.850		0.965			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	1832	2444	3241	1750	5602	0	3151	5602	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	1832	2444	3241	1750	5602	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82			46		127			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		343			1927			1191			553	
Travel Time (s)		7.8			43.8			27.1			12.6	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	89	25	148	10	450	23	4912	0	204	1382	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	4		7	8	1	5	2		1	6	
Permitted Phases			4			8						
Detector Phase	3	4	4	7	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	8.0	8.0	20.0		8.0	20.0	
Total Split (s)	11.0	20.0	20.0	11.0	20.0	9.0	8.0	80.0		9.0	81.0	
Total Split (%)	9.2%	16.7%	16.7%	9.2%	16.7%	7.5%	6.7%	66.7%		7.5%	67.5%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	16.8	11.9	11.9	8.0	11.1	19.2	7.2	77.0		11.1	84.8	
Actuated g/C Ratio	0.14	0.10	0.10	0.07	0.09	0.16	0.06	0.64		0.09	0.71	
v/c Ratio	0.27	0.47	0.10	1.21	0.04	0.81	0.22	1.35		0.70	0.35	
Control Delay	49.4	58.6	0.8	196.6	49.8	56.4	49.3	177.3		87.2	3.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1		0.0	0.1	
Total Delay	49.4	58.6	0.8	196.6	49.8	56.4	49.3	177.4		87.2	3.8	
LOS	D	E	A	F	D	E	D	F		F	A	
Approach Delay		47.2			90.4			176.8			14.6	
Approach LOS		D			F			F			B	
Queue Length 50th (ft)	43	66	0	~140	8	~237	18	~1824		86	61	
Queue Length 95th (ft)	#106	117	0	#276	23	223	m16	m#589		#178	71	
Internal Link Dist (ft)		263			1847			1111			473	
Turn Bay Length (ft)	60		60	115		100	50			150		
Base Capacity (vph)	247	269	318	122	354	558	104	3640		290	3957	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	796	
Spillback Cap Reductn	0	0	0	0	0	0	0	123		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.26	0.33	0.08	1.21	0.03	0.81	0.22	1.40		0.70	0.44	

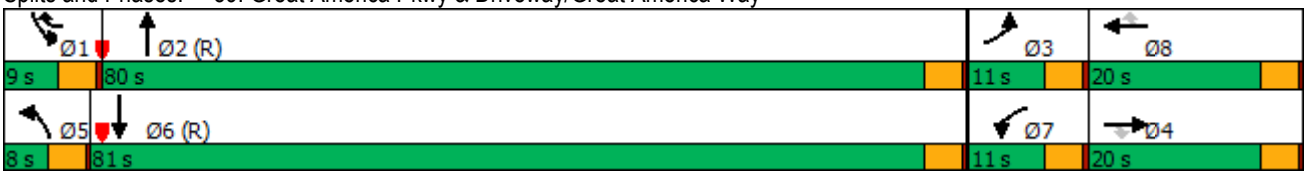
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.35			
Intersection Signal Delay: 131.2		Intersection LOS: F	
Intersection Capacity Utilization 108.3%		ICU Level of Service G	
Analysis Period (min) 15			

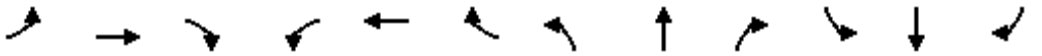
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 59: Great America Pkwy & Driveway/Great America Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	744	77	166	67	10	49	88	3757	45	11	1358	134
Future Volume (vph)	744	77	166	67	10	49	88	3757	45	11	1358	134
Ideal Flow (vphpl)	1744	2047	1900	1879	2096	2148	1879	2097	2242	1879	2122	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		0	80		0	150		0	110		0
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	25			65			25			90		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.898			0.876			0.998			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	1802	0	1750	1800	0	1750	5601	0	1750	5600	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	1802	0	1750	1800	0	1750	5601	0	1750	5600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		86			53			2			20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			389			446			1191	
Travel Time (s)		17.4			8.8			10.1			27.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	809	264	0	73	64	0	96	4133	0	12	1622	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	24.0	33.0		11.0	20.0		11.0	65.0		11.0	65.0	
Total Split (%)	20.0%	27.5%		9.2%	16.7%		9.2%	54.2%		9.2%	54.2%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	21.0	21.8		7.9	8.5		12.6	78.8		7.4	67.8	
Actuated g/C Ratio	0.18	0.18		0.07	0.07		0.10	0.66		0.06	0.56	

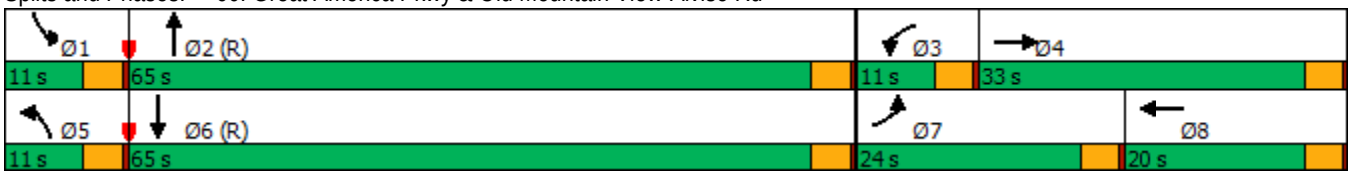
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.47	0.66		0.63	0.36		0.52	1.12		0.11	0.51	
Control Delay	256.5	38.9		79.2	23.4		55.5	77.0		55.7	6.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.0	
Total Delay	256.5	38.9		79.2	23.4		55.5	77.1		55.7	6.9	
LOS	F	D		E	C		E	E		E	A	
Approach Delay		202.9			53.1			76.6			7.3	
Approach LOS		F			D			E			A	
Queue Length 50th (ft)	~443	132		56	8		72	~1300		9	105	
Queue Length 95th (ft)	#567	212		#124	50		m75	m#1478		m25	145	
Internal Link Dist (ft)		684			309			366			1111	
Turn Bay Length (ft)	130			80			150			110		
Base Capacity (vph)	551	515		116	300		184	3680		119	3171	
Starvation Cap Reductn	0	0		0	0		0	276		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.47	0.51		0.63	0.21		0.52	1.21		0.10	0.51	

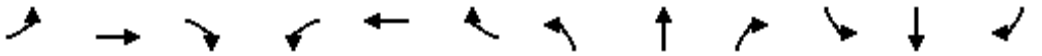
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.47
Intersection Signal Delay: 79.3 Intersection LOS: E
Intersection Capacity Utilization 109.8% ICU Level of Service H
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 60: Great America Pkwy & Old Mountain View-Alviso Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	302	0	1169	0	2654	305	456	1273	0
Future Volume (vph)	0	0	0	302	0	1169	0	2654	305	456	1273	0
Ideal Flow (vphpl)	1785	1900	1785	1744	1900	2148	1900	2124	1900	1744	2093	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		250	150		0
Storage Lanes	1		1	2		2	0		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Ped Bike Factor												
Frt						0.850		0.985				
Flt Protected				0.950						0.950		
Satd. Flow (prot)	1750	0	1750	3151	0	3150	0	5600	0	3151	5602	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	1750	0	1750	3151	0	3150	0	5600	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						9		28				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		261			2574			838			446	
Travel Time (s)		5.9			58.5			19.0			10.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	328	0	1271	0	3217	0	496	1384	0
Turn Type	Prot		Perm	Prot		pm+ov		NA		Prot	NA	
Protected Phases	7			3		1		2		1	6	
Permitted Phases			7			3						
Detector Phase	7		7	3		1		2		1	6	
Switch Phase												
Minimum Initial (s)	4.0		4.0	4.0		4.0		4.0		4.0	4.0	
Minimum Split (s)	11.0		11.0	11.0		11.0		20.0		11.0	20.0	
Total Split (s)	25.0		25.0	25.0		22.0		73.0		22.0	95.0	
Total Split (%)	20.8%		20.8%	20.8%		18.3%		60.8%		18.3%	79.2%	
Yellow Time (s)	3.5		3.5	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5		0.5		0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0		3.0	3.0		3.0		3.0		3.0	3.0	
Lead/Lag						Lag		Lead		Lag		
Lead-Lag Optimize?						Yes		Yes		Yes		
Recall Mode	None		None	None		None		C-Max		None	C-Max	
Act Effct Green (s)				18.4		40.4		73.6		19.0	95.6	
Actuated g/C Ratio				0.15		0.34		0.61		0.16	0.80	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.68		1.19		0.93		1.00	0.31	
Control Delay				55.2		131.5		17.0		80.0	1.2	
Queue Delay				0.0		6.1		6.7		0.0	0.1	
Total Delay				55.2		137.6		23.7		80.0	1.3	
LOS				E		F		C		E	A	
Approach Delay					120.7			23.7			22.1	
Approach LOS					F			C			C	
Queue Length 50th (ft)				124		~672		350		205	23	
Queue Length 95th (ft)				169		#782		m335		#318	35	
Internal Link Dist (ft)		181			2494			758			366	
Turn Bay Length (ft)										150		
Base Capacity (vph)				577		1067		3444		498	4461	
Starvation Cap Reductn				0		0		117		0	1446	
Spillback Cap Reductn				0		638		228		0	0	
Storage Cap Reductn				0		0		0		0	0	
Reduced v/c Ratio				0.57		2.96		1.00		1.00	0.46	

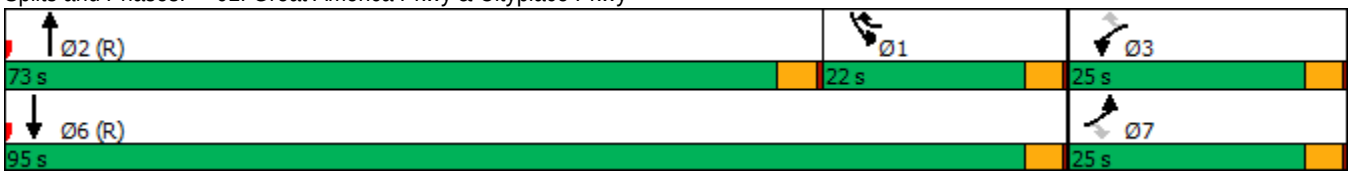
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.19			
Intersection Signal Delay: 46.4		Intersection LOS: D	
Intersection Capacity Utilization 94.8%		ICU Level of Service F	
Analysis Period (min) 15			

~ 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.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 61: Great America Pkwy & Cityplace Pkwy



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	617	228	2730	592	274	1302
Future Volume (vph)	617	228	2730	592	274	1302
Ideal Flow (vphpl)	1744	2100	2151	1900	1744	2130
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		300	300	
Storage Lanes	2	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.91	0.91	0.97	0.91
Ped Bike Factor						
Frt		0.850	0.973			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	5602	0	3151	5701
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	5602	0	3151	5701
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		1	73			
Link Speed (mph)	30		30			30
Link Distance (ft)	989		472			838
Travel Time (s)	22.5		10.7			19.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	671	248	3610	0	298	1415
Turn Type	Prot	pm+ov	NA		Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8				
Detector Phase	8	1	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	11.0	11.0	20.0		11.0	20.0
Total Split (s)	29.0	15.0	76.0		15.0	91.0
Total Split (%)	24.2%	12.5%	63.3%		12.5%	75.8%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0		3.0	3.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	C-Max		None	C-Max
Act Effct Green (s)	26.0	41.0	73.0		12.0	88.0
Actuated g/C Ratio	0.22	0.34	0.61		0.10	0.73

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.98	0.41	1.05		0.95	0.34
Control Delay	77.8	32.8	40.6		97.7	3.5
Queue Delay	0.0	0.0	16.3		0.0	0.0
Total Delay	77.8	32.8	56.9		97.7	3.5
LOS	E	C	E		F	A
Approach Delay	65.7		56.9			19.9
Approach LOS	E		E			B
Queue Length 50th (ft)	268	146	~1096		121	62
Queue Length 95th (ft)	#392	222	m#1138		#209	80
Internal Link Dist (ft)	909		392			758
Turn Bay Length (ft)					300	
Base Capacity (vph)	682	598	3436		315	4180
Starvation Cap Reductn	0	0	77		0	0
Spillback Cap Reductn	0	0	121		0	169
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.98	0.41	1.09		0.95	0.35

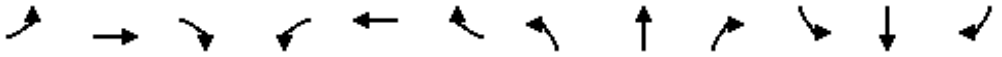
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 48.0		Intersection LOS: D	
Intersection Capacity Utilization 95.9%		ICU Level of Service F	
Analysis Period (min) 15			

~ 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.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 62: Great America Pkwy & Second St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	616	21	239	174	21	79	211	2636	114	32	1657	59
Future Volume (vph)	616	21	239	174	21	79	211	2636	114	32	1657	59
Ideal Flow (vphpl)	2065	2211	1900	1880	2252	1900	1879	2105	1900	1879	2103	1900
Storage Length (ft)	130		0	125		0	140		0	145		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			75			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.91	0.91	1.00	0.91	0.91
Frt		0.862			0.882			0.994			0.995	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1923	3550	0	1751	3700	0	1750	5600	0	1750	5600	0
Flt Permitted	0.683			0.538			0.950			0.950		
Satd. Flow (perm)	1383	3550	0	992	3700	0	1750	5600	0	1750	5600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		215			86			7			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		838			526			859			472	
Travel Time (s)		19.0			12.0			19.5			10.7	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	670	283	0	189	109	0	229	2989	0	35	1865	0
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Detector Phase	4	4		8	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	52.0	52.0		52.0	52.0		19.0	57.0		11.0	49.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		15.8%	47.5%		9.2%	40.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	49.0	49.0		49.0	49.0		16.0	58.4		7.6	46.0	
Actuated g/C Ratio	0.41	0.41		0.41	0.41		0.13	0.49		0.06	0.38	
v/c Ratio	1.19	0.18		0.47	0.07		0.98	1.10		0.32	0.87	
Control Delay	134.6	6.3		30.7	6.8		70.8	74.1		57.2	39.6	
Queue Delay	0.1	0.0		0.0	0.0		0.0	2.1		0.0	13.6	
Total Delay	134.7	6.3		30.7	6.8		70.8	76.2		57.2	53.1	
LOS	F	A		C	A		E	E		E	D	
Approach Delay		96.6			22.0			75.8			53.2	
Approach LOS		F			C			E			D	
Queue Length 50th (ft)	~625	16		106	5		190	~992		25	476	
Queue Length 95th (ft)	#855	44		178	23		m174	m#816		m48	m534	
Internal Link Dist (ft)		758			446			779			392	
Turn Bay Length (ft)	130			125			140			145		
Base Capacity (vph)	564	1576		405	1561		233	2728		116	2149	
Starvation Cap Reductn	0	0		0	0		0	0		0	310	
Spillback Cap Reductn	9	0		0	15		0	317		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.21	0.18		0.47	0.07		0.98	1.24		0.30	1.01	

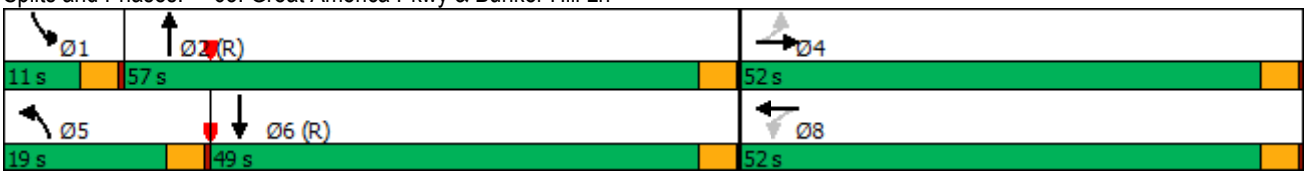
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.19			
Intersection Signal Delay: 69.7		Intersection LOS: E	
Intersection Capacity Utilization 99.7%		ICU Level of Service F	
Analysis Period (min) 15			

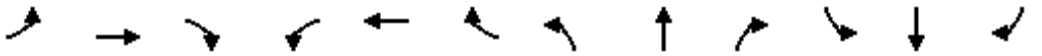
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 63: Great America Pkwy & Bunker Hill Ln





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	625	35	736	2	56	125	387	2034	0	43	2422	552
Future Volume (vph)	625	35	736	2	56	125	387	2034	0	43	2422	552
Ideal Flow (vphpl)	1900	1922	2100	1744	2076	2077	1744	2224	1900	1744	2153	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	90		0	220		0	245		0
Storage Lanes	0		1	2		2	2		0	2		0
Taper Length (ft)	25			70			85			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	0.91	0.91	0.97	0.86	0.86	0.97	0.91	0.91
Ped Bike Factor												
Frt			0.850		0.972	0.850					0.972	
Flt Protected		0.955		0.950			0.950			0.950		
Satd. Flow (prot)	0	1800	1750	3151	1800	3150	3151	7501	0	3151	5601	0
Flt Permitted		0.678		0.950			0.950			0.950		
Satd. Flow (perm)	0	1278	1750	3151	1800	3150	3151	7501	0	3151	5601	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209		10	122					65	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		597			530			1416			1240	
Travel Time (s)		13.6			12.0			32.2			28.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)						10%						
Lane Group Flow (vph)	0	717	800	2	75	122	421	2211	0	47	3233	0
Turn Type	Perm	NA	pm+ov	Prot	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4	5	3	8		5	2		1	6	
Permitted Phases	4		4			8						
Detector Phase	4	4	5	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	20.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0		11.0	20.0	
Total Split (s)	20.0	20.0	15.0	19.0	39.0	39.0	15.0	70.0		11.0	66.0	
Total Split (%)	16.7%	16.7%	12.5%	15.8%	32.5%	32.5%	12.5%	58.3%		9.2%	55.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)		-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)		3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lag	Lag	Lead	Lead			Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)		34.0	49.0	6.6	36.0	36.0	12.0	69.3		7.6	63.0	
Actuated g/C Ratio		0.28	0.41	0.06	0.30	0.30	0.10	0.58		0.06	0.52	

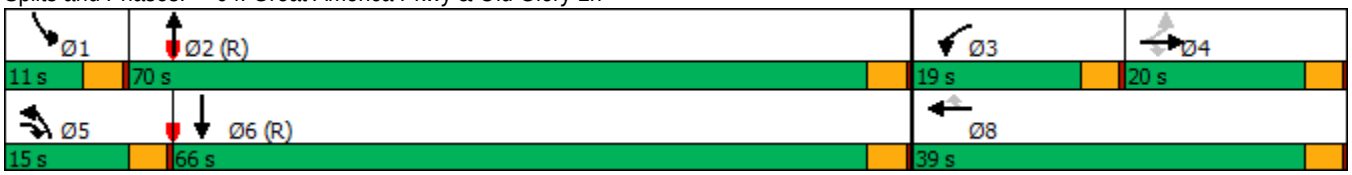
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio		1.98	0.95	0.01	0.14	0.12	1.34	0.51		0.24	1.09	
Control Delay		477.5	48.1	53.5	27.4	5.7	213.7	25.3		46.7	70.4	
Queue Delay		0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay		477.5	48.1	53.5	27.4	5.7	213.7	25.3		46.7	70.4	
LOS		F	D	D	C	A	F	C		D	E	
Approach Delay		251.1			14.3			55.4			70.0	
Approach LOS		F			B			E			E	
Queue Length 50th (ft)		~847	461	1	40	0	~219	494		20	~1017	
Queue Length 95th (ft)		#1165	#829	5	82	23	#332	252		m23	m#973	
Internal Link Dist (ft)		517			450			1336			1160	
Turn Bay Length (ft)				90			220			245		
Base Capacity (vph)		362	838	420	547	1030	315	4332		210	2971	
Starvation Cap Reductn		0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn		0	0	0	0	0	0	0		0	0	
Storage Cap Reductn		0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio		1.98	0.95	0.00	0.14	0.12	1.34	0.51		0.22	1.09	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.98
Intersection Signal Delay: 99.5 Intersection LOS: F
Intersection Capacity Utilization 116.9% ICU Level of Service H
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 64: Great America Pkwy & Old Glory Ln



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	10	1764	224	32	169	1059	2407	44	9	2681	9
Future Volume (vph)	48	10	1764	224	32	169	1059	2407	44	9	2681	9
Ideal Flow (vphpl)	1879	1938	2100	1744	2101	1000	1744	2231	1900	1879	2130	2100
Storage Length (ft)	100		0	110		0	220		0	370		0
Storage Lanes	1		1	2		0	2		0	1		1
Taper Length (ft)	100			50			65			90		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	0.97	0.86	0.86	1.00	0.91	1.00
Frt			0.850		0.874			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	3151	1800	0	3151	7502	0	1750	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	3151	1800	0	3151	7502	0	1750	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			45		127			5				118
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		695			297			1322			1416	
Travel Time (s)		15.8			6.8			30.0			32.2	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	11	1917	243	219	0	1151	2664	0	10	2914	10
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									6
Detector Phase	7	4	5	3	8		5	2		1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0		11.0	20.0		11.0	20.0	20.0
Total Split (s)	11.0	20.0	48.0	11.0	20.0		48.0	78.0		11.0	41.0	41.0
Total Split (%)	9.2%	16.7%	40.0%	9.2%	16.7%		40.0%	65.0%		9.2%	34.2%	34.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	C-Max
Act Effct Green (s)	7.7	9.0	55.5	17.5	12.7		51.5	90.3		7.2	38.0	38.0
Actuated g/C Ratio	0.06	0.08	0.46	0.15	0.11		0.43	0.75		0.06	0.32	0.32
v/c Ratio	0.46	0.08	2.30	0.53	0.72		0.85	0.47		0.10	1.61	0.02
Control Delay	68.0	50.1	610.3	51.9	35.3		35.7	19.2		47.4	311.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	68.0	50.1	610.3	51.9	35.3		35.7	19.2		47.4	311.8	0.0
LOS	E	D	F	D	D		D	B		D	F	A
Approach Delay		592.9			44.0			24.1			309.8	
Approach LOS		F			D			C			F	
Queue Length 50th (ft)	40	8	~2501	85	68		486	470		7	~1184	0
Queue Length 95th (ft)	82	25	#2585	#199	149		m495	m516		m6	m#1096	m0
Internal Link Dist (ft)		615			217			1242			1336	
Turn Bay Length (ft)	100			110			220			370		
Base Capacity (vph)	116	269	833	460	364		1351	5643		116	1805	634
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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.45	0.04	2.30	0.53	0.60		0.85	0.47		0.09	1.61	0.02

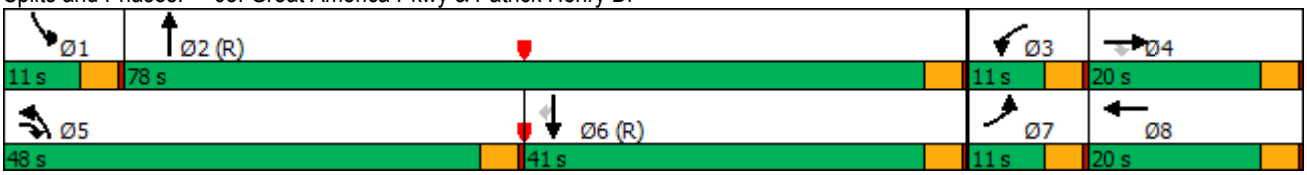
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.30			
Intersection Signal Delay: 238.9		Intersection LOS: F	
Intersection Capacity Utilization 162.0%		ICU Level of Service H	
Analysis Period (min) 15			

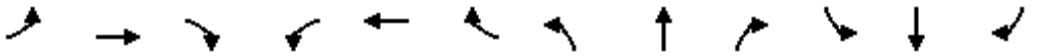
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 65: Great America Pkwy & Patrick Henry Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	405	459	100	1512	523	539	271	2512	377	529	3345	611
Future Volume (vph)	405	459	100	1512	523	539	271	2512	377	529	3345	611
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	2254	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	220		0	230		50	460		220	180		0
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			90			130			70		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.86	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	7602	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	7602	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			155			176			155			165
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		661			613			2059			1322	
Travel Time (s)		15.0			13.9			46.8			30.0	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	440	499	109	1643	568	586	295	2730	410	575	3636	664
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free			Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	31.0	20.0		34.0	23.0		11.0	46.0		20.0	55.0	
Total Split (%)	25.8%	16.7%		28.3%	19.2%		9.2%	38.3%		16.7%	45.8%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	28.0	17.0	120.0	31.0	20.0	120.0	8.0	43.0	120.0	17.0	52.0	120.0
Actuated g/C Ratio	0.23	0.14	1.00	0.26	0.17	1.00	0.07	0.36	1.00	0.14	0.43	1.00

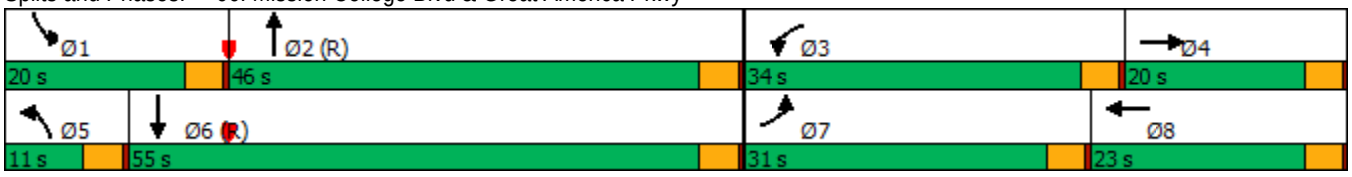
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.08	0.93	0.06	2.02	0.90	0.33	1.40	1.00	0.23	1.29	1.47	0.38
Control Delay	111.0	75.6	0.1	488.5	67.2	0.5	239.8	66.4	0.2	172.5	246.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	111.0	75.6	0.1	488.5	67.2	0.5	239.8	66.4	0.2	172.5	246.2	0.1
LOS	F	E	A	F	E	A	F	E	A	F	F	A
Approach Delay		82.6			300.7			73.4			204.0	
Approach LOS		F			F			E			F	
Queue Length 50th (ft)	~380	203	0	~1026	229	0	~159	~651	0	~298	~1405	0
Queue Length 95th (ft)	#583	#306	0	#1163	#329	0	#253	#728	0	m#249	m#1168	m0
Internal Link Dist (ft)		581			533			1979			1242	
Turn Bay Length (ft)	220			230		50	460		220	180		
Base Capacity (vph)	408	538	1750	814	633	1750	210	2724	1750	446	2470	1750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.08	0.93	0.06	2.02	0.90	0.33	1.40	1.00	0.23	1.29	1.47	0.38

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 2.02
Intersection Signal Delay: 178.9 Intersection LOS: F
Intersection Capacity Utilization 138.2% ICU Level of Service H
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 66: Mission College Blvd & Great America Pkwy



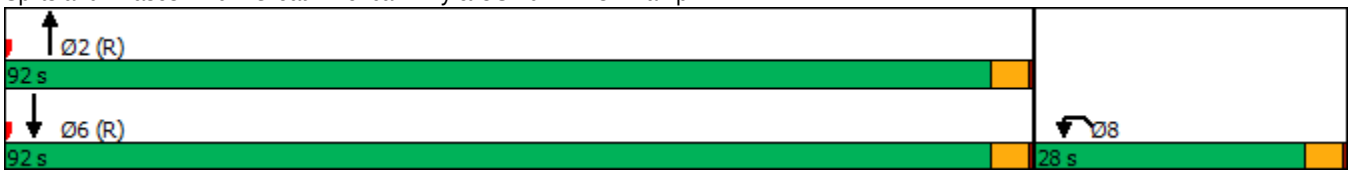
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations						
Traffic Volume (vph)	2498	0	0	3732	367	1135
Future Volume (vph)	2498	0	0	3732	367	1135
Ideal Flow (vphpl)	2130	1900	1900	2130	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	0		0	0
Storage Lanes		0	0		2	1
Taper Length (ft)			25		25	
Lane Util. Factor	0.91	1.00	1.00	0.91	0.97	1.00
Ped Bike Factor						
Frt						0.850
Flt Protected					0.950	
Satd. Flow (prot)	5701	0	0	5701	3151	1750
Flt Permitted					0.950	
Satd. Flow (perm)	5701	0	0	5701	3151	1750
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)						239
Link Speed (mph)	30			30	30	
Link Distance (ft)	955			2059	341	
Travel Time (s)	21.7			46.8	7.8	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	2715	0	0	4057	399	1234
Turn Type	NA			NA	Prot	Free
Protected Phases	2			6	8	
Permitted Phases						Free
Detector Phase	2			6	8	
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	20.0			20.0	11.0	
Total Split (s)	92.0			92.0	28.0	
Total Split (%)	76.7%			76.7%	23.3%	
Yellow Time (s)	3.5			3.5	3.5	
All-Red Time (s)	0.5			0.5	0.5	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	3.0			3.0	3.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max			C-Max	None	
Act Effct Green (s)	93.0			93.0	21.0	120.0
Actuated g/C Ratio	0.78			0.78	0.18	1.00

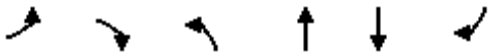
Lane Group	NBT	NBR	SBL	SBT	NWL	NWR
v/c Ratio	0.61			0.92	0.72	0.71
Control Delay	4.7			13.9	54.4	2.4
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	4.7			13.9	54.4	2.4
LOS	A			B	D	A
Approach Delay	4.7			13.9	15.1	
Approach LOS	A			B	B	
Queue Length 50th (ft)	204			493	151	0
Queue Length 95th (ft)	228			m251	198	0
Internal Link Dist (ft)	875			1979	261	
Turn Bay Length (ft)						
Base Capacity (vph)	4417			4417	656	1750
Starvation Cap Reductn	95			0	0	0
Spillback Cap Reductn	0			0	0	0
Storage Cap Reductn	0			0	0	0
Reduced v/c Ratio	0.63			0.92	0.61	0.71

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

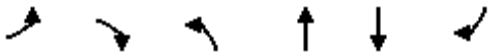
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 67: Great America Pkwy & US 101 NB Off Ramp





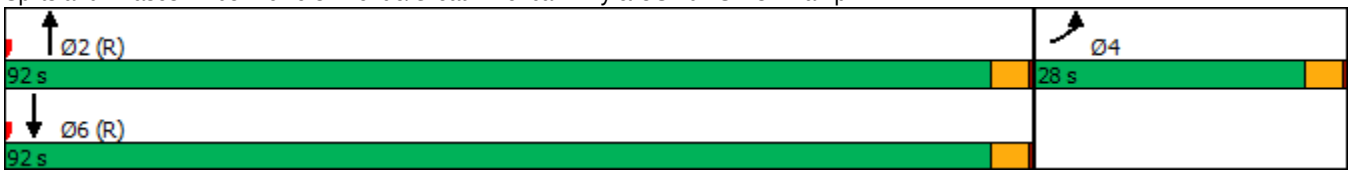
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	467	365	0	2242	2534	0
Future Volume (vph)	467	365	0	2242	2534	0
Ideal Flow (vphpl)	1744	2100	1900	2130	2130	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)	0	0	0			0
Storage Lanes	2	1	0			0
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	0.91	0.91	1.00
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	3151	1750	0	5701	5701	0
Flt Permitted	0.950					
Satd. Flow (perm)	3151	1750	0	5701	5701	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		239				
Link Speed (mph)	30			30	30	
Link Distance (ft)	485			371	955	
Travel Time (s)	11.0			8.4	21.7	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	508	397	0	2437	2754	0
Turn Type	Prot	Free		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		Free				
Detector Phase	4			2	6	
Switch Phase						
Minimum Initial (s)	4.0			4.0	4.0	
Minimum Split (s)	11.0			20.0	20.0	
Total Split (s)	28.0			92.0	92.0	
Total Split (%)	23.3%			76.7%	76.7%	
Yellow Time (s)	3.5			3.5	3.5	
All-Red Time (s)	0.5			0.5	0.5	
Lost Time Adjust (s)	-1.0			-1.0	-1.0	
Total Lost Time (s)	3.0			3.0	3.0	
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			Max	Max	
Act Effct Green (s)	25.0	120.0		89.0	89.0	
Actuated g/C Ratio	0.21	1.00		0.74	0.74	

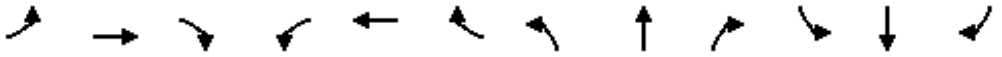


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.77	0.23		0.58	0.65	
Control Delay	54.0	0.3		7.7	8.0	
Queue Delay	0.0	0.0		0.0	0.1	
Total Delay	54.0	0.3		7.7	8.2	
LOS	D	A		A	A	
Approach Delay	30.4			7.7	8.2	
Approach LOS	C			A	A	
Queue Length 50th (ft)	192	0		270	268	
Queue Length 95th (ft)	256	0		303	270	
Internal Link Dist (ft)	405			291	875	
Turn Bay Length (ft)						
Base Capacity (vph)	656	1750		4228	4228	
Starvation Cap Reductn	0	0		0	407	
Spillback Cap Reductn	0	0		0	0	
Storage Cap Reductn	0	0		0	0	
Reduced v/c Ratio	0.77	0.23		0.58	0.72	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 40			
Control Type: Pretimed			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 11.3		Intersection LOS: B	
Intersection Capacity Utilization 82.4%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 68: Bowers Avenue/Great America Pkwy & US 101 SB Off Ramp





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	276	1	1045	0	0	0	395	518	0	0	528	15
Future Volume (vph)	276	1	1045	0	0	0	395	518	0	0	528	15
Ideal Flow (vphpl)	1879	1900	2148	1900	1900	1900	1879	2040	1900	1900	1995	1900
Storage Length (ft)	110		0	0		0	210		0	90		0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	35			25			85			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850									0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1750	1863	1790	0	0	0	1750	3800	0	1863	1956	1583
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1750	1863	1790	0	0	0	1750	3800	0	1863	1956	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101									73
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1927			187			397			584	
Travel Time (s)		43.8			4.3			9.0			13.3	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	300	1	1136	0	0	0	429	563	0	0	574	16
Turn Type	Perm	NA	pm+ov				Prot	NA		Perm	NA	Perm
Protected Phases		4	5				5	2			6	
Permitted Phases	4		4							6		6
Detector Phase	4	4	5				5	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0				4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0				20.0	20.0		20.0	20.0	20.0
Total Split (s)	17.0	17.0	31.0				31.0	58.0		27.0	27.0	27.0
Total Split (%)	22.7%	22.7%	41.3%				41.3%	77.3%		36.0%	36.0%	36.0%
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5				0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0				-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Lead/Lag			Lead				Lead			Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Recall Mode	Min	Min	None				None	C-Max		None	None	None
Act Effct Green (s)	14.0	14.0	45.0				28.0	55.0			24.0	24.0
Actuated g/C Ratio	0.19	0.19	0.60				0.37	0.73			0.32	0.32
v/c Ratio	0.92	0.00	1.02				0.66	0.20			0.92	0.03
Control Delay	66.1	25.0	48.4				25.3	3.3			47.4	0.1
Queue Delay	0.0	0.0	0.0				0.7	0.0			0.0	0.0
Total Delay	66.1	25.0	48.4				26.0	3.3			47.4	0.1
LOS	E	C	D				C	A			D	A
Approach Delay		52.0						13.2			46.2	
Approach LOS		D						B			D	
Queue Length 50th (ft)	138	0	~493				162	33			254	0
Queue Length 95th (ft)	#280	4	#786				259	47			#443	0
Internal Link Dist (ft)		1847			107			317			504	
Turn Bay Length (ft)	110						210					
Base Capacity (vph)	326	347	1114				653	2786			625	556
Starvation Cap Reductn	0	0	0				56	0			0	0
Spillback Cap Reductn	0	0	0				0	0			0	0

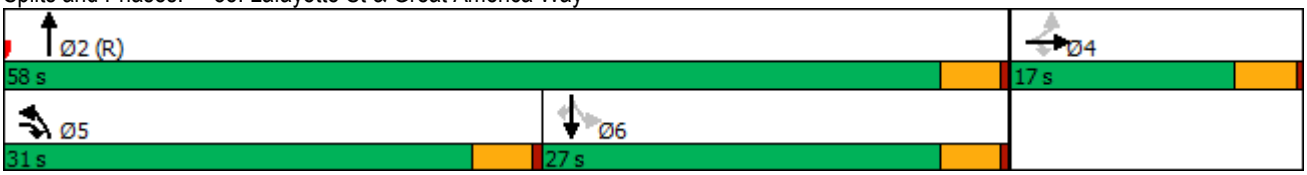
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0				0	0			0	0
Reduced v/c Ratio	0.92	0.00	1.02				0.72	0.20			0.92	0.03

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 38.1		Intersection LOS: D	
Intersection Capacity Utilization 90.4%		ICU Level of Service E	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 85: Lafayette St & Great America Way

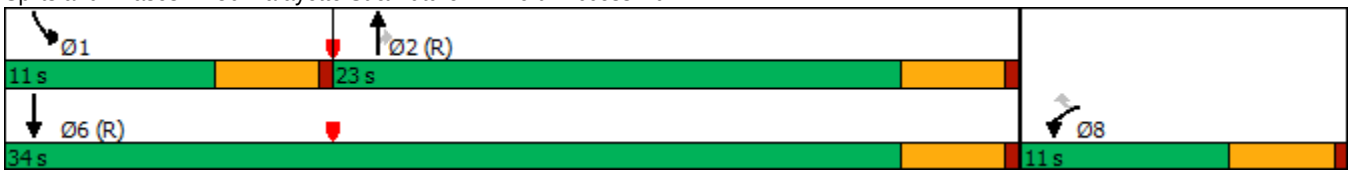


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	9	222	753	6	19	1555
Future Volume (vph)	9	222	753	6	19	1555
Ideal Flow (vphpl)	2146	2308	2040	2100	1879	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	200		400	75	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt	0.861	0.850		0.850		
Flt Protected	0.996				0.950	
Satd. Flow (prot)	3500	1750	3800	1750	1750	3800
Flt Permitted	0.996				0.950	
Satd. Flow (perm)	3500	1750	3800	1750	1750	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	121	120		7		
Link Speed (mph)	30		30			30
Link Distance (ft)	674		1025			397
Travel Time (s)	15.3		23.3			9.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	131	120	818	7	21	1690
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	23.0	23.0	11.0	34.0
Total Split (%)	24.4%	24.4%	51.1%	51.1%	24.4%	75.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	8.0	8.0	20.0	20.0	8.0	31.0
Actuated g/C Ratio	0.18	0.18	0.44	0.44	0.18	0.69

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.18	0.29	0.48	0.01	0.07	0.65
Control Delay	5.7	6.6	10.1	4.7	16.1	5.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	5.7	6.6	10.1	4.7	16.1	5.7
LOS	A	A	B	A	B	A
Approach Delay	6.1		10.0			5.8
Approach LOS	A		B			A
Queue Length 50th (ft)	1	0	72	0	5	90
Queue Length 95th (ft)	17	34	109	5	18	133
Internal Link Dist (ft)	594		945			317
Turn Bay Length (ft)		200		400	75	
Base Capacity (vph)	721	409	1688	781	311	2617
Starvation Cap Reductn	0	0	0	0	0	360
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.29	0.48	0.01	0.07	0.75

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 45			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 7.1		Intersection LOS: A	
Intersection Capacity Utilization 50.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 86: Lafayette St & Future NE North Access Rd



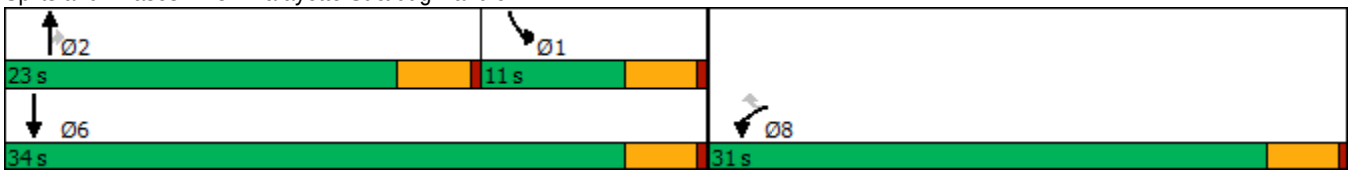
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1153	77	682	733	24	1538
Future Volume (vph)	1153	77	682	733	24	1538
Ideal Flow (vphpl)	1744	2100	2040	2148	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		400	400	
Storage Lanes	2	1		2	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	0.88	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	3150	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	3150	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		84		797		
Link Speed (mph)	30		30			30
Link Distance (ft)	767		890			1025
Travel Time (s)	17.4		20.2			23.3
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1253	84	741	797	26	1672
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	31.0	31.0	23.0	23.0	11.0	34.0
Total Split (%)	47.7%	47.7%	35.4%	35.4%	16.9%	52.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	27.7	27.7	26.6	26.6	7.2	31.0
Actuated g/C Ratio	0.43	0.43	0.41	0.41	0.11	0.48

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.93	0.11	0.47	0.45	0.07	0.92
Control Delay	31.7	3.5	16.6	2.5	26.0	26.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.7	3.5	16.6	2.5	26.0	26.0
LOS	C	A	B	A	C	C
Approach Delay	29.9		9.3			26.0
Approach LOS	C		A			C
Queue Length 50th (ft)	231	0	94	0	5	305
Queue Length 95th (ft)	#366	21	185	38	14	#468
Internal Link Dist (ft)	687		810			945
Turn Bay Length (ft)				400	400	
Base Capacity (vph)	1363	804	1563	1765	389	1820
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	0.92	0.10	0.47	0.45	0.07	0.92

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 64.7			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 21.5		Intersection LOS: C	
Intersection Capacity Utilization 82.1%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 87: Lafayette St & Jug Handle



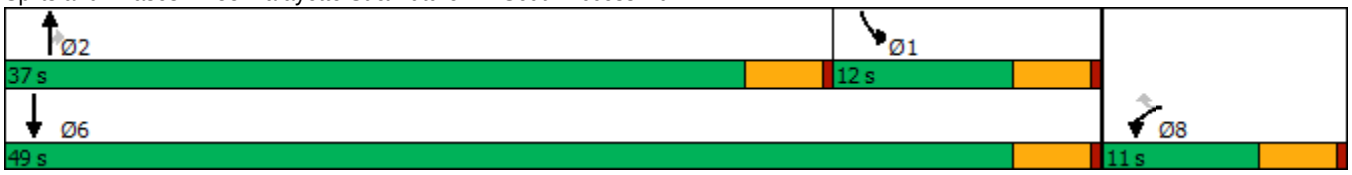
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	280	305	1110	123	221	2470
Future Volume (vph)	280	305	1110	123	221	2470
Ideal Flow (vphpl)	1744	2100	2040	2100	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		300	200	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	1750	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	1750	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		264		134		
Link Speed (mph)	30		30			30
Link Distance (ft)	502		870			890
Travel Time (s)	11.4		19.8			20.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	304	332	1207	134	240	2685
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	37.0	37.0	12.0	49.0
Total Split (%)	18.3%	18.3%	61.7%	61.7%	20.0%	81.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effct Green (s)	8.0	8.0	34.0	34.0	9.0	46.0
Actuated g/C Ratio	0.13	0.13	0.57	0.57	0.15	0.77

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.72	0.72	0.56	0.13	0.51	0.92
Control Delay	36.8	17.3	9.5	1.7	27.7	13.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.8	17.3	9.5	1.7	27.7	13.1
LOS	D	B	A	A	C	B
Approach Delay	26.6		8.7			14.3
Approach LOS	C		A			B
Queue Length 50th (ft)	55	23	130	0	41	269
Queue Length 95th (ft)	#105	#122	178	18	72	#502
Internal Link Dist (ft)	422		790			810
Turn Bay Length (ft)				300	200	
Base Capacity (vph)	420	462	2153	1049	472	2913
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	0.72	0.72	0.56	0.13	0.51	0.92

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 79.0%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 88: Lafayette St & Future NE South Access Rd



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT	Ø3
Lane Configurations								
Traffic Volume (vph)	98	344	0	878	189	367	2545	
Future Volume (vph)	98	344	0	878	189	367	2545	
Ideal Flow (vphpl)	1879	2100	1785	2042	1900	1879	2040	
Storage Length (ft)	0	0	60		0	120		
Storage Lanes	1	1	1		0	1		
Taper Length (ft)	25		85			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.95	
Frt		0.850		0.973				
Flt Protected	0.950					0.950		
Satd. Flow (prot)	1750	1750	1750	3701	0	1750	3800	
Flt Permitted	0.950					0.950		
Satd. Flow (perm)	1750	1750	1750	3701	0	1750	3800	
Right Turn on Red		Yes			Yes			
Satd. Flow (RTOR)		51		52				
Link Speed (mph)	30			30			30	
Link Distance (ft)	469			471			870	
Travel Time (s)	10.7			10.7			19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	107	374	0	1159	0	399	2766	
Turn Type	Prot	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	1	5	2		1	6	3
Permitted Phases		3						
Detector Phase	7	1	5	2		1	6	
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	20.0		11.0	20.0	11.0
Total Split (s)	11.0	21.0	11.0	28.0		21.0	38.0	11.0
Total Split (%)	18.3%	35.0%	18.3%	46.7%		35.0%	63.3%	18%
Yellow Time (s)	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag		Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	Min		None	Min	None
Act Effct Green (s)	7.8	24.6		24.7		16.4	45.1	
Actuated g/C Ratio	0.14	0.44		0.45		0.30	0.81	
v/c Ratio	0.43	0.47		0.69		0.77	0.90	
Control Delay	30.1	11.0		15.7		31.2	11.6	
Queue Delay	0.0	0.0		0.0		0.0	0.0	
Total Delay	30.1	11.0		15.7		31.2	11.6	
LOS	C	B		B		C	B	
Approach Delay	15.2			15.7			14.1	
Approach LOS	B			B			B	
Queue Length 50th (ft)	36	69		169		130	300	
Queue Length 95th (ft)	78	126		237		#254	#670	
Internal Link Dist (ft)	389			391			790	
Turn Bay Length (ft)						120		
Base Capacity (vph)	261	870		1752		587	3088	
Starvation Cap Reductn	0	0		0		0	0	
Spillback Cap Reductn	0	0		0		0	0	

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT	Ø3
Storage Cap Reductn	0	0		0		0	0	
Reduced v/c Ratio	0.41	0.43		0.66		0.68	0.90	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 55.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 84.3%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 89: Lafayette St & Calle Del Mundo

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	658	55	0	1027	522	342	2316
Future Volume (vph)	658	55	0	1027	522	342	2316
Ideal Flow (vphpl)	1744	2100	1785	2040	2100	1879	2040
Storage Length (ft)	0	0	60		0	180	
Storage Lanes	2	1	1		1	1	
Taper Length (ft)	25		85			100	
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850			0.850		
Flt Protected	0.950					0.950	
Satd. Flow (prot)	3151	1750	1750	3800	1750	1750	3800
Flt Permitted	0.950					0.950	
Satd. Flow (perm)	3151	1750	1750	3800	1750	1750	3800
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		23			524		
Link Speed (mph)	30			30			30
Link Distance (ft)	852			1090			471
Travel Time (s)	19.4			24.8			10.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	715	60	0	1116	567	372	2517
Turn Type	Prot	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	8	1	5	2		1	6
Permitted Phases		8			2		
Minimum Split (s)	20.0	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	29.0	41.0	11.0	50.0	50.0	41.0	80.0
Total Split (%)	24.2%	34.2%	9.2%	41.7%	41.7%	34.2%	66.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag		Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	26.0	67.0		47.0	47.0	38.0	77.0
Actuated g/C Ratio	0.22	0.56		0.39	0.39	0.32	0.64
v/c Ratio	1.05	0.06		0.75	0.56	0.67	1.03
Control Delay	93.3	8.3		35.3	5.6	42.7	49.4
Queue Delay	0.0	0.0		0.0	0.0	1.9	28.1
Total Delay	93.3	8.3		35.3	5.6	44.6	77.5
LOS	F	A		D	A	D	E
Approach Delay	86.8			25.3			73.2
Approach LOS	F			C			E
Queue Length 50th (ft)	~310	12		386	21	249	~1101
Queue Length 95th (ft)	#430	32		470	104	360	#1232
Internal Link Dist (ft)	772			1010			391
Turn Bay Length (ft)						180	
Base Capacity (vph)	682	987		1488	1004	554	2438
Starvation Cap Reductn	0	0		0	0	78	472
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	1.05	0.06		0.75	0.56	0.78	1.28

Intersection Summary

Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Pretimed			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 60.1		Intersection LOS: E	
Intersection Capacity Utilization 93.4%		ICU Level of Service F	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 90: Lafayette St & Calle De Luna

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	306	447	0	187	83	457	119	9	146	126	3
Future Volume (vph)	3	306	447	0	187	83	457	119	9	146	126	3
Ideal Flow (vphpl)	1900	1836	2100	1900	2026	1900	1879	1856	1900	1879	1842	1900
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.954			0.989			0.997	
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1770	1800	1750	1863	1895	0	1750	1800	0	1750	1800	0
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	1770	1800	1750	1863	1895	0	1750	1800	0	1750	1800	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			486		25			5			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		852			497			490			246	
Travel Time (s)		19.4			11.3			11.1			5.6	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	333	486	0	293	0	497	139	0	159	140	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	7	4	5	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0		11.0	11.0		11.0	20.0	
Total Split (s)	11.0	20.0	28.0	11.0	20.0		28.0	32.0		17.0	21.0	
Total Split (%)	13.8%	25.0%	35.0%	13.8%	25.0%		35.0%	40.0%		21.3%	26.3%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Max		None	Min	
Act Effct Green (s)	6.7	18.2	45.0		16.4		23.8	29.2		11.7	17.1	
Actuated g/C Ratio	0.10	0.27	0.66		0.24		0.35	0.43		0.17	0.25	
v/c Ratio	0.02	0.70	0.37		0.62		0.81	0.18		0.53	0.31	
Control Delay	31.0	31.1	1.3		28.8		34.1	14.2		33.5	24.6	
Queue Delay	0.0	0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Total Delay	31.0	31.1	1.3		28.8		34.1	14.2		33.5	24.6	
LOS	C	C	A		C		C	B		C	C	
Approach Delay		13.5			28.8			29.7			29.4	
Approach LOS		B			C			C			C	
Queue Length 50th (ft)	1	126	0		96		175	32		59	47	
Queue Length 95th (ft)	9	210	24		#213		#412	84		131	108	
Internal Link Dist (ft)		772			417			410			166	
Turn Bay Length (ft)	100											
Base Capacity (vph)	209	498	1345		494		646	774		362	479	
Starvation Cap Reductn	0	0	0		0		0	0		0	0	
Spillback Cap Reductn	0	0	0		0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0		0		0	0		0	0	
Reduced v/c Ratio	0.01	0.67	0.36		0.59		0.77	0.18		0.44	0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 68.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 23.0		Intersection LOS: C	
Intersection Capacity Utilization 59.3%		ICU Level of Service B	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 114: Calle Del Sol & Calle De Luna

Cumulative + Project Scheme C (With Lick Mill Connection)

AM Peak Hour

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	968	33	705	1156	147	326	1565	561	110	1354	635
Future Volume (vph)	153	968	33	705	1156	147	326	1565	561	110	1354	635
Ideal Flow (vphpl)	1744	2040	2100	1733	2040	2100	1744	2130	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	270		110	245		100	170		0	250		250
Storage Lanes	2		1	3		1	2		1	2		1
Taper Length (ft)	115			140			100			65		
Lane Util. Factor	0.97	0.95	1.00	0.94	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			158			109			313			213
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			704			1278			856	
Travel Time (s)		17.5			16.0			29.0			19.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	166	1052	36	766	1257	160	354	1701	610	120	1472	690
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	12.0	29.0	29.0	19.0	36.0	36.0	14.0	31.0	31.0	11.0	28.0	28.0
Total Split (%)	13.3%	32.2%	32.2%	21.1%	40.0%	40.0%	15.6%	34.4%	34.4%	12.2%	31.1%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	8.8	26.0	26.0	16.0	33.2	33.2	11.0	28.1	28.1	7.9	25.0	25.0
Actuated g/C Ratio	0.10	0.29	0.29	0.18	0.37	0.37	0.12	0.31	0.31	0.09	0.28	0.28

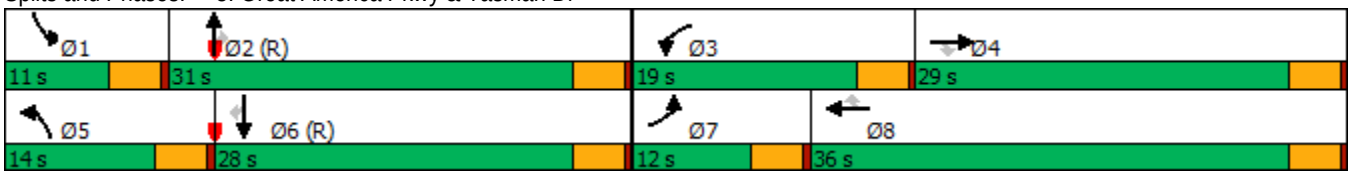
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.54	0.96	0.06	0.95	0.90	0.22	0.92	0.95	0.80	0.44	0.93	1.08
Control Delay	45.5	51.5	0.2	49.1	29.1	7.5	64.3	51.8	32.0	44.2	43.5	82.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0
Total Delay	45.5	51.5	0.2	49.1	29.1	7.5	64.3	51.8	34.2	44.2	43.5	82.8
LOS	D	D	A	D	C	A	E	D	C	D	D	F
Approach Delay		49.2			34.5			49.4			55.4	
Approach LOS		D			C			D			E	
Queue Length 50th (ft)	46	308	0	147	402	25	110	313	198	34	297	~348
Queue Length 95th (ft)	79	#441	0	m#221	#500	m42	m#186	#429	m#314	61	#390	#564
Internal Link Dist (ft)		688			624			1198			776	
Turn Bay Length (ft)	270		110	245		100	170			250		250
Base Capacity (vph)	315	1097	617	809	1400	713	385	1782	762	280	1583	639
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	64	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.96	0.06	0.95	0.90	0.22	0.92	0.95	0.87	0.43	0.93	1.08

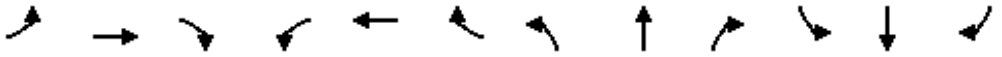
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 47.1 Intersection LOS: D
Intersection Capacity Utilization 86.4% ICU Level of Service E
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Great America Pkwy & Tasman Dr





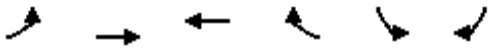
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	1450	7	6	2067	527	9	0	4	277	0	83
Future Volume (vph)	113	1450	7	6	2067	527	9	0	4	277	0	83
Ideal Flow (vphpl)	1744	1989	1900	1879	2040	2100	1900	1923	1900	1978	2034	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	185		0	195		175	0		0	0		0
Storage Lanes	2		0	1		1	0		0	1		1
Taper Length (ft)	115			75			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Ped Bike Factor												
Frt		0.999				0.850		0.961				0.850
Flt Protected	0.950			0.950				0.966		0.950	0.950	
Satd. Flow (prot)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Flt Permitted	0.950			0.950				0.966		0.950	0.950	
Satd. Flow (perm)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				229		82				90
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		844			667			330			406	
Travel Time (s)		19.2			15.2			7.5			9.2	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	123	1584	0	7	2247	573	0	14	0	150	151	90
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	20.0		11.0	20.0	20.0	20.0	20.0		20.0	20.0	20.0
Total Split (s)	11.0	62.0		11.0	62.0	62.0	27.0	27.0		20.0	20.0	20.0
Total Split (%)	9.2%	51.7%		9.2%	51.7%	51.7%	22.5%	22.5%		16.7%	16.7%	16.7%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Act Effct Green (s)	7.9	68.3		7.0	59.3	59.3		6.5		13.7	13.7	13.7
Actuated g/C Ratio	0.09	0.74		0.08	0.65	0.65		0.07		0.15	0.15	0.15
v/c Ratio	0.45	0.57		0.05	0.92	0.47		0.07		0.57	0.56	0.27
Control Delay	46.9	8.1		42.8	22.7	6.8		0.7		45.9	45.2	10.2
Queue Delay	0.0	0.1		0.0	11.6	0.2		0.0		0.0	0.0	0.0
Total Delay	46.9	8.2		42.8	34.3	7.0		0.7		45.9	45.2	10.2

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	A		D	C	A		A		D	D	B
Approach Delay		11.0			28.8			0.7			37.4	
Approach LOS		B			C			A			D	
Queue Length 50th (ft)	35	141		4	501	74		0		84	84	0
Queue Length 95th (ft)	70	465		19	#968	205		0		163	164	43
Internal Link Dist (ft)		764			587			250			326	
Turn Bay Length (ft)	185			195		175						
Base Capacity (vph)	276	2755		153	2455	1212		520		325	335	399
Starvation Cap Reductn	0	186		0	237	139		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.45	0.62		0.05	1.01	0.53		0.03		0.46	0.45	0.23

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 91.7			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 23.2		Intersection LOS: C	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 11: Tasman Dr & Centennial Blvd



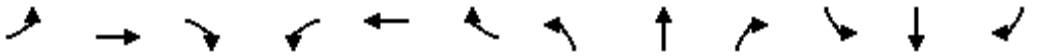
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	149	778	2454	225	495	400
Future Volume (vph)	149	778	2454	225	495	400
Ideal Flow (vphpl)	1744	2040	2040	2100	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	170			120	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	75				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	3800	3800	1750	3151	1750
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	3800	3800	1750	3151	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				55		4
Link Speed (mph)		30	30		30	
Link Distance (ft)		860	819		532	
Travel Time (s)		19.5	18.6		12.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	162	846	2667	245	538	435
Turn Type	Prot	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	7	4	8	1	1	7
Permitted Phases				8		1
Detector Phase	7	4	8	1	1	7
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	11.0	11.0
Total Split (s)	11.0	86.0	75.0	24.0	24.0	11.0
Total Split (%)	10.0%	78.2%	68.2%	21.8%	21.8%	10.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	8.0	83.0	72.0	95.8	20.8	31.8
Actuated g/C Ratio	0.07	0.76	0.66	0.87	0.19	0.29

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio	0.71	0.29	1.07	0.16	0.90	0.85
Control Delay	67.2	4.5	60.9	1.0	63.2	53.9
Queue Delay	0.0	0.0	12.6	0.0	0.0	0.0
Total Delay	67.2	4.5	73.5	1.0	63.2	53.9
LOS	E	A	E	A	E	D
Approach Delay		14.6	67.4		59.1	
Approach LOS		B	E		E	
Queue Length 50th (ft)	58	83	~1103	12	192	287
Queue Length 95th (ft)	#105	105	#1235	20	#288	#459
Internal Link Dist (ft)		780	739		452	
Turn Bay Length (ft)	170			120		
Base Capacity (vph)	229	2871	2491	1536	602	509
Starvation Cap Reductn	0	0	156	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	0.71	0.29	1.14	0.16	0.89	0.85

Intersection Summary

Area Type: Other
Cycle Length: 110
Actuated Cycle Length: 109.8
Natural Cycle: 130
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 54.9 Intersection LOS: D
Intersection Capacity Utilization 92.3% ICU Level of Service F
Analysis Period (min) 15
~ 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.

Splits and Phases: 13: Tasman Dr & Calle Del Sol



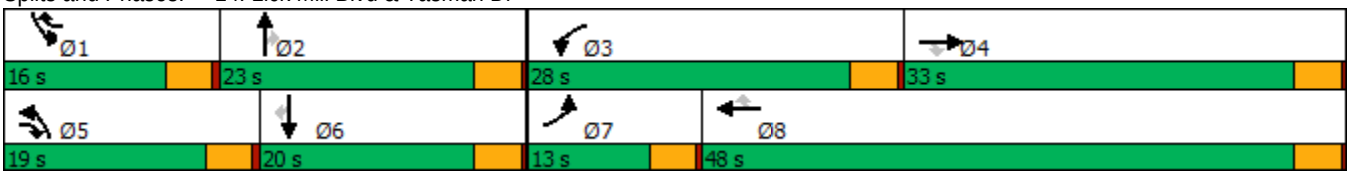
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	267	633	318	181	1826	431	615	312	275	304	147	80
Future Volume (vph)	267	633	318	181	1826	431	615	312	275	304	147	80
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	1938	2100	1744	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	145		345	160		110	0		100	0		25
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			65			60			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			346			82			198			142
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		819			593			379			387	
Travel Time (s)		18.6			13.5			8.6			8.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	290	688	346	197	1985	468	668	339	299	330	160	87
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	13.0	33.0	19.0	28.0	48.0	16.0	19.0	23.0	23.0	16.0	20.0	20.0
Total Split (%)	13.0%	33.0%	19.0%	28.0%	48.0%	16.0%	19.0%	23.0%	23.0%	16.0%	20.0%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	10.0	42.4	61.4	12.6	45.0	61.0	16.0	20.0	20.0	13.0	17.0	17.0
Actuated g/C Ratio	0.10	0.42	0.61	0.13	0.45	0.61	0.16	0.20	0.20	0.13	0.17	0.17

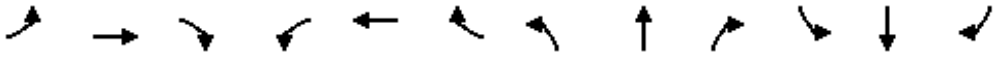
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.66	0.43	0.29	0.50	1.16	0.43	1.33	0.89	0.59	0.81	0.50	0.21
Control Delay	350.5	21.7	1.7	44.8	106.9	9.6	194.8	65.7	17.8	58.9	43.6	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	350.5	21.7	1.7	44.8	106.9	9.6	194.8	65.7	17.8	58.9	43.6	2.5
LOS	F	C	A	D	F	A	F	E	B	E	D	A
Approach Delay		88.5			85.1			120.8			46.1	
Approach LOS		F			F			F			D	
Queue Length 50th (ft)	~270	158	0	61	~793	116	~286	212	55	106	94	0
Queue Length 95th (ft)	#433	220	35	93	#932	183	#397	#372	142	#174	159	10
Internal Link Dist (ft)		739			513			299			307	
Turn Bay Length (ft)	145		345	160		110			100			25
Base Capacity (vph)	175	1612	1208	787	1710	1099	504	381	509	409	323	415
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.66	0.43	0.29	0.25	1.16	0.43	1.33	0.89	0.59	0.81	0.50	0.21

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.66
Intersection Signal Delay: 90.0 Intersection LOS: F
Intersection Capacity Utilization 102.0% ICU Level of Service G
Analysis Period (min) 15
~ 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.

Splits and Phases: 14: Lick Mill Blvd & Tasman Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	3	9	1378	57	302	36	993	100	485	3013	68
Future Volume (vph)	2	3	9	1378	57	302	36	993	100	485	3013	68
Ideal Flow (vphpl)	1879	1938	2100	1967	2324	2148	1879	2122	1900	1744	2099	1900
Storage Length (ft)	60		60	115		100	50		0	145		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			65			115			90		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Frt			0.850			0.850		0.986			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	1832	2278	3150	1750	5600	0	3151	5601	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	1832	2278	3150	1750	5600	0	3151	5601	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			206			328		17			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		343			1935			1191			526	
Travel Time (s)		7.8			44.0			27.1			12.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	3	10	1498	62	328	39	1188	0	527	3349	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	4		7	8	1	5	2		1	6	
Permitted Phases			4			8						
Detector Phase	3	4	4	7	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	11.0	11.0	20.0		11.0	20.0	
Total Split (s)	11.0	20.0	20.0	29.0	38.0	17.0	11.0	24.0		17.0	30.0	
Total Split (%)	12.2%	22.2%	22.2%	32.2%	42.2%	18.9%	12.2%	26.7%		18.9%	33.3%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	6.7	6.7	6.7	26.0	28.0	55.5	8.5	26.5		24.5	46.4	
Actuated g/C Ratio	0.07	0.07	0.07	0.29	0.31	0.62	0.09	0.29		0.27	0.52	
v/c Ratio	0.02	0.02	0.03	2.83	0.09	0.16	0.24	0.72		0.61	1.16	
Control Delay	38.5	38.7	0.2	847.2	22.0	1.0	34.1	38.3		36.5	97.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	38.5	38.7	0.2	847.2	22.0	1.0	34.1	38.3		36.5	97.1	
LOS	D	D	A	F	C	A	C	D		D	F	
Approach Delay		13.0			673.1			38.2			88.9	
Approach LOS		B			F			D			F	
Queue Length 50th (ft)	1	2	0	~1474	26	0	20	241		153	~851	
Queue Length 95th (ft)	8	10	0	#1729	55	17	m47	#332		199	#1113	
Internal Link Dist (ft)		263			1855			1111			446	
Turn Bay Length (ft)	60		60	115		100	50			145		
Base Capacity (vph)	155	358	497	529	890	2068	173	1659		857	2892	
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	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.01	0.01	0.02	2.83	0.07	0.16	0.23	0.72		0.61	1.16	

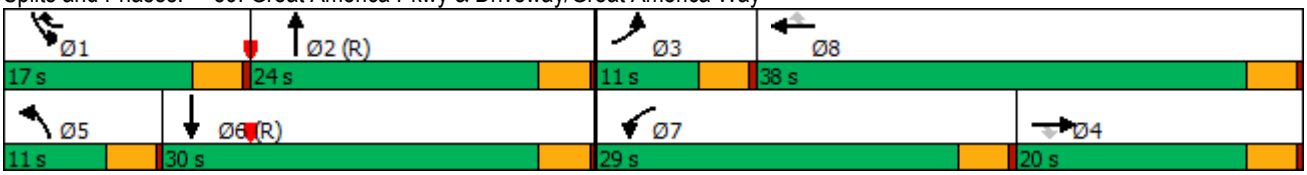
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.83			
Intersection Signal Delay: 237.3		Intersection LOS: F	
Intersection Capacity Utilization 147.8%		ICU Level of Service H	
Analysis Period (min) 15			

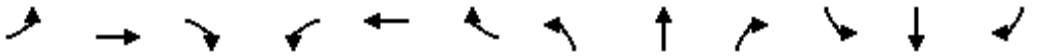
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 59: Great America Pkwy & Driveway/Great America Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	8	29	51	4	5	136	912	85	36	3690	671
Future Volume (vph)	206	8	29	51	4	5	136	912	85	36	3690	671
Ideal Flow (vphpl)	1744	2079	1900	1879	2002	2148	1879	2120	2442	1879	2142	2442
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		0	80		0	150		0	110		0
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	25			65			25			90		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.883			0.917			0.987			0.977	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	1800	0	1750	1800	0	1750	5600	0	1750	5601	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	1800	0	1750	1800	0	1750	5600	0	1750	5601	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		32			5			24			58	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			381			446			1191	
Travel Time (s)		17.4			8.7			10.1			27.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	224	41	0	55	9	0	148	1083	0	39	4740	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	11.0	20.0		11.0	20.0		11.0	48.0		11.0	48.0	
Total Split (%)	12.2%	22.2%		12.2%	22.2%		12.2%	53.3%		12.2%	53.3%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	12.2	7.8		7.7	7.2		15.1	61.8		8.5	51.2	
Actuated g/C Ratio	0.14	0.09		0.09	0.08		0.17	0.69		0.09	0.57	

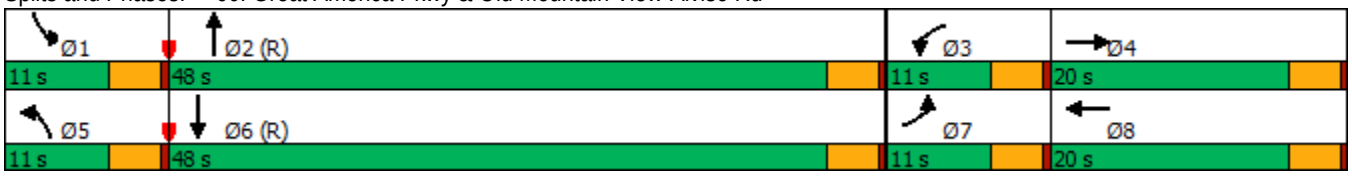
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.53	0.22		0.37	0.06		0.50	0.28		0.24	1.48	
Control Delay	41.7	20.2		46.1	28.9		48.5	2.4		33.2	235.7	
Queue Delay	0.0	0.0		1.8	0.0		0.0	0.0		0.0	0.0	
Total Delay	41.7	20.2		47.9	28.9		48.5	2.4		33.2	235.7	
LOS	D	C		D	C		D	A		C	F	
Approach Delay		38.4			45.2			8.0			234.0	
Approach LOS		D			D			A			F	
Queue Length 50th (ft)	57	5		30	2		90	26		21	~1429	
Queue Length 95th (ft)	#124	35		67	16		m134	35		m20	m#1256	
Internal Link Dist (ft)		684			301			366			1111	
Turn Bay Length (ft)	130			80			150			110		
Base Capacity (vph)	425	365		155	344		294	3852		173	3211	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		34	0		0	0		0	10	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.11		0.45	0.03		0.50	0.28		0.23	1.48	

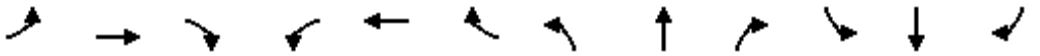
Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.48
Intersection Signal Delay: 180.0 Intersection LOS: F
Intersection Capacity Utilization 107.2% ICU Level of Service G
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 60: Great America Pkwy & Old Mountain View-Alviso Rd





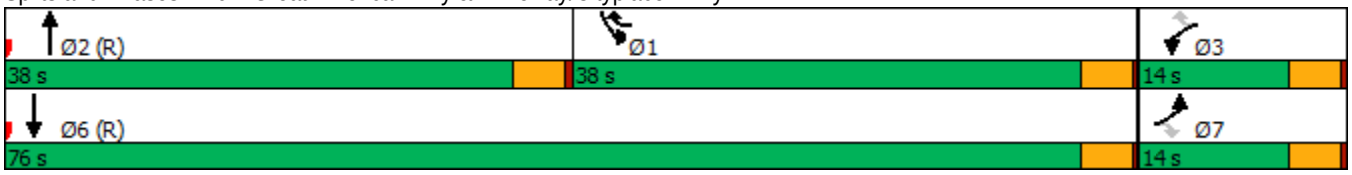
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	189	0	155	0	1028	420	849	3150	0
Future Volume (vph)	0	0	0	189	0	155	0	1028	420	849	3150	0
Ideal Flow (vphpl)	1785	1900	1785	1744	1900	2148	1900	2189	1900	1744	2093	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		200	150		0
Storage Lanes	1		1	2		2	0		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Ped Bike Factor												
Frt						0.850		0.956				
Flt Protected				0.950						0.950		
Satd. Flow (prot)	1750	0	1750	3151	0	3150	0	5601	0	3151	5602	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	1750	0	1750	3151	0	3150	0	5601	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						39		134				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		387			2577			827			446	
Travel Time (s)		8.8			58.6			18.8			10.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	205	0	168	0	1574	0	923	3424	0
Turn Type	Prot		Perm	Prot		pm+ov		NA		Prot	NA	
Protected Phases	7			3		1		2		1	6	
Permitted Phases			7			3						
Detector Phase	7		7	3		1		2		1	6	
Switch Phase												
Minimum Initial (s)	4.0		4.0	4.0		4.0		4.0		4.0	4.0	
Minimum Split (s)	11.0		11.0	11.0		11.0		20.0		11.0	20.0	
Total Split (s)	14.0		14.0	14.0		38.0		38.0		38.0	76.0	
Total Split (%)	15.6%		15.6%	15.6%		42.2%		42.2%		42.2%	84.4%	
Yellow Time (s)	3.5		3.5	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5		0.5		0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0		3.0	3.0		3.0		3.0		3.0	3.0	
Lead/Lag						Lag		Lead		Lag		
Lead-Lag Optimize?						Yes		Yes		Yes		
Recall Mode	None		None	None		None		C-Max		None	C-Max	
Act Effct Green (s)				10.5		48.5		35.5		35.0	73.5	
Actuated g/C Ratio				0.12		0.54		0.39		0.39	0.82	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.56		0.10		0.69		0.75	0.75	
Control Delay				43.6		7.7		20.3		21.9	3.5	
Queue Delay				0.0		0.0		0.0		0.8	46.5	
Total Delay				43.6		7.7		20.3		22.7	50.0	
LOS				D		A		C		C	D	
Approach Delay					27.4			20.3			44.2	
Approach LOS					C			C			D	
Queue Length 50th (ft)				57		18		168		289	69	
Queue Length 95th (ft)				92		35		241		m172	m5	
Internal Link Dist (ft)		307			2497			747			366	
Turn Bay Length (ft)										150		
Base Capacity (vph)				385		1716		2288		1225	4572	
Starvation Cap Reductn				0		0		0		103	1490	
Spillback Cap Reductn				0		0		0		0	0	
Storage Cap Reductn				0		0		0		0	0	
Reduced v/c Ratio				0.53		0.10		0.69		0.82	1.11	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 37.2		Intersection LOS: D	
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 15			

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 61: Great America Pkwy & Driveway/Cityplace Pkwy

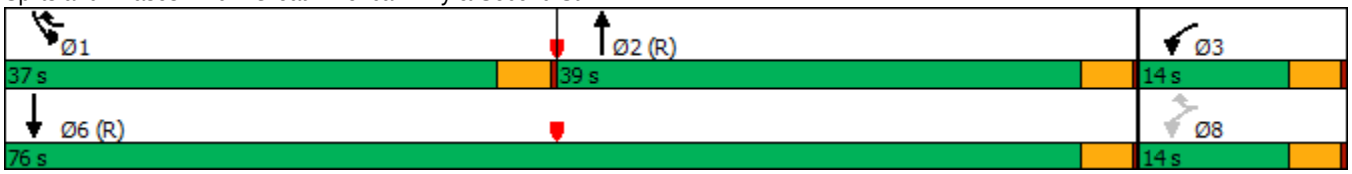


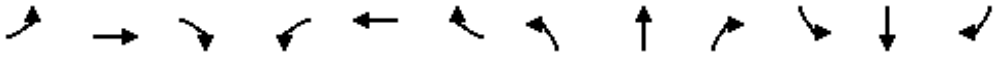
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	231	393	1054	604	796	2542	
Future Volume (vph)	231	393	1054	604	796	2542	
Ideal Flow (vphpl)	1744	2100	2214	1900	1744	2130	
Lane Width (ft)	12	12	12	12	12	12	
Grade (%)	0%		0%			0%	
Storage Length (ft)	0	0		300	300		
Storage Lanes	2	1		0	2		
Taper Length (ft)	25				25		
Lane Util. Factor	0.97	1.00	0.91	0.91	0.97	0.91	
Ped Bike Factor							
Frt		0.850	0.945				
Flt Protected	0.950				0.950		
Satd. Flow (prot)	3151	1750	5600	0	3151	5701	
Flt Permitted	0.950				0.950		
Satd. Flow (perm)	3151	1750	5600	0	3151	5701	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		22	191				
Link Speed (mph)	30		30			30	
Link Distance (ft)	989		486			827	
Travel Time (s)	22.5		11.0			18.8	
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%		0%			0%	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	251	427	1803	0	865	2763	
Turn Type	pm+pt	pm+ov	NA		Prot	NA	
Protected Phases	3	1	2		1	6	8
Permitted Phases	8	8					
Detector Phase	3	1	2		1	6	
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0		11.0	20.0	11.0
Total Split (s)	14.0	37.0	39.0		37.0	76.0	14.0
Total Split (%)	15.6%	41.1%	43.3%		41.1%	84.4%	16%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0		3.0	3.0	
Lead/Lag		Lead	Lag		Lead		
Lead-Lag Optimize?		Yes	Yes		Yes		
Recall Mode	None	None	C-Max		None	C-Max	None
Act Effct Green (s)	10.7	44.9	39.1		31.1	73.3	
Actuated g/C Ratio	0.12	0.50	0.43		0.35	0.81	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
v/c Ratio	0.67	0.48	0.71		0.79	0.60	
Control Delay	47.3	15.7	20.8		21.1	7.8	
Queue Delay	0.0	0.0	0.3		0.0	0.0	
Total Delay	47.3	15.7	21.2		21.1	7.8	
LOS	D	B	C		C	A	
Approach Delay	27.4		21.2			11.0	
Approach LOS	C		C			B	
Queue Length 50th (ft)	71	138	278		209	474	
Queue Length 95th (ft)	110	207	345		246	390	
Internal Link Dist (ft)	909		406			747	
Turn Bay Length (ft)					300		
Base Capacity (vph)	385	938	2543		1190	4640	
Starvation Cap Reductn	0	0	245		0	0	
Spillback Cap Reductn	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	
Reduced v/c Ratio	0.65	0.46	0.78		0.73	0.60	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 15.8		Intersection LOS: B	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 62: Great America Pkwy & Second St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	5	496	0	0	0	1121	859	0	0	290	568
Future Volume (vph)	22	5	496	0	0	0	1121	859	0	0	290	568
Ideal Flow (vphpl)	1879	1900	2148	1900	1900	1900	1879	2040	1900	1900	2205	1900
Storage Length (ft)	110		0	0		0	210		0	90		0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	35			25			85			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850									0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1750	1863	1790	0	0	0	1750	3800	0	1863	2162	1583
Flt Permitted	0.950						0.950					
Satd. Flow (perm)	1750	1863	1790	0	0	0	1750	3800	0	1863	2162	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			233									151
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1935			115			402			584	
Travel Time (s)		44.0			2.6			9.1			13.3	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	5	539	0	0	0	1218	934	0	0	315	617
Turn Type	Perm	NA	pm+ov				Prot	NA		Perm	NA	Perm
Protected Phases		4	5				5	2			6	
Permitted Phases	4		4							6		6
Detector Phase	4	4	5				5	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0				4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0				20.0	20.0		20.0	20.0	20.0
Total Split (s)	11.0	11.0	96.0				96.0	139.0		43.0	43.0	43.0
Total Split (%)	7.3%	7.3%	64.0%				64.0%	92.7%		28.7%	28.7%	28.7%
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5				0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0				-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Lead/Lag			Lead				Lead			Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Recall Mode	Min	Min	None				None	None		None	None	None
Act Effct Green (s)	7.6	7.6	103.6				93.0	136.0			40.0	40.0
Actuated g/C Ratio	0.05	0.05	0.69				0.62	0.91			0.27	0.27
v/c Ratio	0.27	0.05	0.41				1.12	0.27			0.54	1.16
Control Delay	76.2	68.8	6.1				94.6	1.0			51.3	126.3
Queue Delay	0.0	0.0	0.0				1.0	0.9			0.0	0.0
Total Delay	76.2	68.8	6.1				95.7	1.9			51.3	126.3
LOS	E	E	A				F	A			D	F
Approach Delay		9.6						55.0			101.0	
Approach LOS		A						D			F	
Queue Length 50th (ft)	23	5	108				~1370	36			266	~598
Queue Length 95th (ft)	56	20	168				#1636	43			368	#841
Internal Link Dist (ft)		1855			35			322			504	
Turn Bay Length (ft)	110						210					
Base Capacity (vph)	93	99	1311				1088	3455			578	533
Starvation Cap Reductn	0	0	0				208	2116			0	0
Spillback Cap Reductn	0	0	0				0	0			0	0

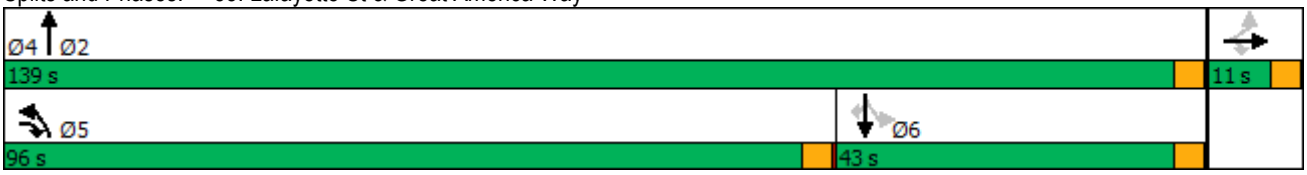
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0				0	0			0	0
Reduced v/c Ratio	0.26	0.05	0.41				1.38	0.70			0.54	1.16

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 149.6			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 59.7		Intersection LOS: E	
Intersection Capacity Utilization 104.6%		ICU Level of Service G	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 85: Lafayette St & Great America Way

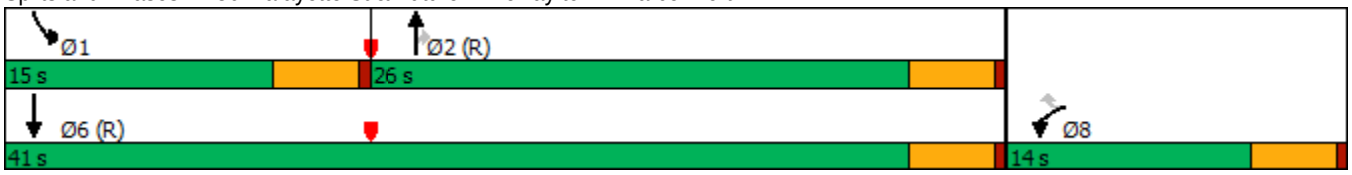


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	137	824	1160	47	247	542
Future Volume (vph)	137	824	1160	47	247	542
Ideal Flow (vphpl)	2100	2308	2040	2100	1879	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	200		400	75	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt	0.887	0.850		0.850		
Flt Protected	0.988				0.950	
Satd. Flow (prot)	3500	1750	3800	1750	1750	3800
Flt Permitted	0.988				0.950	
Satd. Flow (perm)	3500	1750	3800	1750	1750	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	376	376		51		
Link Speed (mph)	30		30			30
Link Distance (ft)	445		1011			402
Travel Time (s)	10.1		23.0			9.1
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)		50%				
Lane Group Flow (vph)	597	448	1261	51	268	589
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	14.0	14.0	26.0	26.0	15.0	41.0
Total Split (%)	25.5%	25.5%	47.3%	47.3%	27.3%	74.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.0	11.0	23.0	23.0	12.0	38.0
Actuated g/C Ratio	0.20	0.20	0.42	0.42	0.22	0.69

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.60	0.69	0.79	0.07	0.70	0.22
Control Delay	10.2	11.1	18.7	3.8	32.4	3.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.2	11.1	18.7	3.8	32.4	3.4
LOS	B	B	B	A	C	A
Approach Delay	10.6		18.1			12.4
Approach LOS	B		B			B
Queue Length 50th (ft)	31	21	179	0	81	27
Queue Length 95th (ft)	71	#107	252	15	#175	42
Internal Link Dist (ft)	365		931			322
Turn Bay Length (ft)		200		400	75	
Base Capacity (vph)	1000	650	1589	761	381	2625
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	0.60	0.69	0.79	0.07	0.70	0.22

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 50			
Control Type: Pretimed			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 14.2		Intersection LOS: B	
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 86: Lafayette St & Future Driveway to NE Parcel North

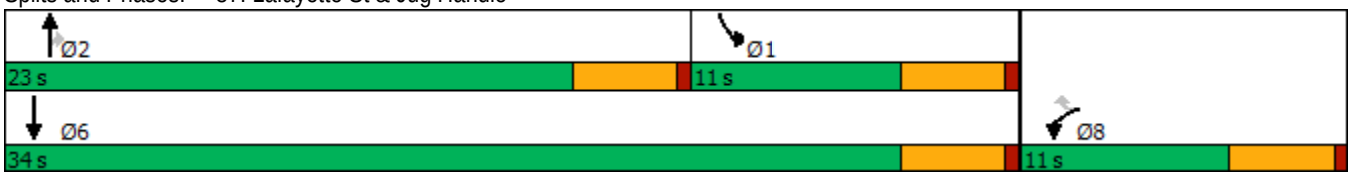


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	261	82	1032	971	197	482
Future Volume (vph)	261	82	1032	971	197	482
Ideal Flow (vphpl)	1744	2100	2040	2148	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		400	400	
Storage Lanes	2	1		2	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	0.88	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	3150	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	3150	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		89		1055		
Link Speed (mph)	30		30			30
Link Distance (ft)	767		890			1011
Travel Time (s)	17.4		20.2			23.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	284	89	1122	1055	214	524
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	23.0	23.0	11.0	34.0
Total Split (%)	24.4%	24.4%	51.1%	51.1%	24.4%	75.6%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	7.9	7.9	21.6	21.6	7.8	30.3
Actuated g/C Ratio	0.18	0.18	0.49	0.49	0.18	0.69

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.50	0.23	0.60	0.51	0.38	0.20
Control Delay	20.2	6.7	10.9	1.7	18.6	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	6.7	10.9	1.7	18.6	2.8
LOS	C	A	B	A	B	A
Approach Delay	17.0		6.4			7.4
Approach LOS	B		A			A
Queue Length 50th (ft)	34	0	110	0	25	17
Queue Length 95th (ft)	62	27	163	27	48	28
Internal Link Dist (ft)	687		810			931
Turn Bay Length (ft)				400	400	
Base Capacity (vph)	571	390	1859	2080	571	2670
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	0.50	0.23	0.60	0.51	0.37	0.20

Intersection Summary			
Area Type:	Other		
Cycle Length: 45			
Actuated Cycle Length: 44.2			
Natural Cycle: 45			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.60			
Intersection Signal Delay: 7.8		Intersection LOS: A	
Intersection Capacity Utilization 50.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 87: Lafayette St & Jug Handle



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	25	120	1873	20	25	718
Future Volume (vph)	25	120	1873	20	25	718
Ideal Flow (vphpl)	1656	2100	2040	1785	1656	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		300	200	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	2992	1750	3800	1488	2992	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	2992	1750	3800	1488	2992	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		129		22		
Link Speed (mph)	30		30			30
Link Distance (ft)	812		897			890
Travel Time (s)	18.5		20.4			20.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	130	2036	22	27	780
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	12.0	12.0	67.0	67.0	11.0	78.0
Total Split (%)	13.3%	13.3%	74.4%	74.4%	12.2%	86.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Max	Max	None	Max
Act Effct Green (s)	7.7	7.7	75.8	75.8	7.4	80.4
Actuated g/C Ratio	0.08	0.08	0.81	0.81	0.08	0.85

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.11	0.50	0.67	0.02	0.12	0.24
Control Delay	38.8	14.4	6.3	1.6	39.4	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.8	14.4	6.3	1.6	39.4	1.5
LOS	D	B	A	A	D	A
Approach Delay	18.6		6.3			2.8
Approach LOS	B		A			A
Queue Length 50th (ft)	7	1	116	0	7	26
Queue Length 95th (ft)	20	52	405	6	20	42
Internal Link Dist (ft)	732		817			810
Turn Bay Length (ft)				300	200	
Base Capacity (vph)	287	284	3061	1203	255	3247
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	0.09	0.46	0.67	0.02	0.11	0.24

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 94.1			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 6.0		Intersection LOS: A	
Intersection Capacity Utilization 61.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 88: Lafayette St & Access Rd

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT	Ø7
Lane Configurations								
Traffic Volume (vph)	268	109	0	1888	50	216	515	
Future Volume (vph)	268	109	0	1888	50	216	515	
Ideal Flow (vphpl)	1879	2100	1785	1995	1900	1879	2040	
Storage Length (ft)	0	0	60		0	120		
Storage Lanes	1	1	1		0	1		
Taper Length (ft)	25		85			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.95	
Frt		0.850		0.996				
Flt Protected	0.950					0.950		
Satd. Flow (prot)	1750	1750	1750	3701	0	1750	3800	
Flt Permitted	0.950					0.950		
Satd. Flow (perm)	1750	1750	1750	3701	0	1750	3800	
Right Turn on Red		Yes			Yes			
Satd. Flow (RTOR)		8		5				
Link Speed (mph)	30			30			30	
Link Distance (ft)	1341			479			897	
Travel Time (s)	30.5			10.9			20.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	291	118	0	2106	0	235	560	
Turn Type	Prot	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	1	5	2		1	6	7
Permitted Phases		7						
Detector Phase	3	1	5	2		1	6	
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	20.0		11.0	20.0	11.0
Total Split (s)	17.0	14.0	11.0	49.0		14.0	52.0	17.0
Total Split (%)	21.3%	17.5%	13.8%	61.3%		17.5%	65.0%	21%
Yellow Time (s)	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag		Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	Max		None	Max	None
Act Effct Green (s)	14.0	11.0		46.0		11.0	60.0	
Actuated g/C Ratio	0.18	0.14		0.58		0.14	0.75	
v/c Ratio	0.95	0.48		0.99		0.98	0.20	
Control Delay	75.9	36.8		35.1		90.8	3.1	
Queue Delay	0.0	0.0		39.7		0.0	0.0	
Total Delay	75.9	36.8		74.7		90.8	3.1	
LOS	E	D		E		F	A	
Approach Delay	64.6			74.7			29.0	
Approach LOS	E			E			C	
Queue Length 50th (ft)	145	51		499		119	33	
Queue Length 95th (ft)	#294	102		#717		#257	47	
Internal Link Dist (ft)	1261			399			817	
Turn Bay Length (ft)						120		
Base Capacity (vph)	306	247		2130		240	2850	
Starvation Cap Reductn	0	0		307		0	0	
Spillback Cap Reductn	0	0		0		0	0	

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT	Ø7
Storage Cap Reductn	0	0		0		0	0	
Reduced v/c Ratio	0.95	0.48		1.16		0.98	0.20	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.99			
Intersection Signal Delay: 62.5		Intersection LOS: E	
Intersection Capacity Utilization 88.3%		ICU Level of Service E	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 89: Lafayette St & Calle Del Mundo

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	486	138	0	1807	447	153	733
Future Volume (vph)	486	138	0	1807	447	153	733
Ideal Flow (vphpl)	1744	2100	1836	2040	2100	1879	2040
Lane Width (ft)	12	12	12	12	12	12	12
Grade (%)	0%			0%			0%
Storage Length (ft)	0	0	60		130	180	
Storage Lanes	2	1	1		1	1	
Taper Length (ft)	25		85			100	
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor							
Frt		0.850			0.850		
Flt Protected	0.950					0.950	
Satd. Flow (prot)	3151	1750	1800	3800	1750	1750	3800
Flt Permitted	0.950					0.950	
Satd. Flow (perm)	3151	1750	1800	3800	1750	1750	3800
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		7			375		
Link Speed (mph)	30			30			30
Link Distance (ft)	834			760			479
Travel Time (s)	19.0			17.3			10.9
Confl. Peds. (#/hr)							
Confl. Bikes (#/hr)							
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%			0%
Shared Lane Traffic (%)							
Lane Group Flow (vph)	528	150	0	1964	486	166	797
Turn Type	Prot	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	7	1	5	2		1	6
Permitted Phases		7			2		
Detector Phase	7	1	5	2	2	1	6
Switch Phase							
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	14.0	11.0	11.0	35.0	35.0	11.0	35.0
Total Split (%)	23.3%	18.3%	18.3%	58.3%	58.3%	18.3%	58.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag		Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.0	22.0		32.0	32.0	8.0	32.0
Actuated g/C Ratio	0.18	0.37		0.53	0.53	0.13	0.53
v/c Ratio	0.92	0.23		0.97	0.44	0.71	0.39
Control Delay	48.4	13.7		29.4	3.4	44.7	9.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0
Total Delay	48.4	13.7		29.4	3.4	44.7	9.0

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
LOS	D	B		C	A	D	A
Approach Delay	40.7			24.2			15.2
Approach LOS	D			C			B
Queue Length 50th (ft)	97	35		326	18	59	81
Queue Length 95th (ft)	#180	70		#517	59	#140	115
Internal Link Dist (ft)	754			680			399
Turn Bay Length (ft)					130	180	
Base Capacity (vph)	577	646		2026	1108	233	2026
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	0.92	0.23		0.97	0.44	0.71	0.39

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 24.8		Intersection LOS: C	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 90: Lafayette St & Calle De Luna

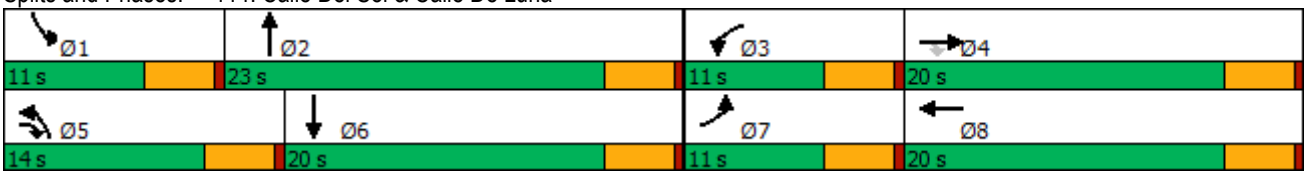
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	270	379	2	237	94	205	141	269	88	95	1
Future Volume (vph)	1	270	379	2	237	94	205	141	269	88	95	1
Ideal Flow (vphpl)	1900	1836	2100	1900	2018	1900	1879	2035	1900	1879	1838	1900
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.957			0.902			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1800	1750	1770	1893	0	1750	1800	0	1750	1800	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1800	1750	1770	1893	0	1750	1800	0	1750	1800	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			412		30			153			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		834			429			532			240	
Travel Time (s)		19.0			9.8			12.1			5.5	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	293	412	2	360	0	223	445	0	96	104	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	7	4	5	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	11.0	20.0	14.0	11.0	20.0		14.0	23.0		11.0	20.0	
Total Split (%)	16.9%	30.8%	21.5%	16.9%	30.8%		21.5%	35.4%		16.9%	30.8%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Min		None	Min	
Act Effct Green (s)	6.9	14.0	28.1	6.9	14.1		10.9	19.5		8.0	11.4	
Actuated g/C Ratio	0.15	0.30	0.60	0.15	0.30		0.23	0.41		0.17	0.24	
v/c Ratio	0.00	0.55	0.34	0.01	0.62		0.55	0.53		0.33	0.24	
Control Delay	24.0	20.2	1.9	23.5	20.1		27.1	12.2		24.7	17.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.0	20.2	1.9	23.5	20.1		27.1	12.2		24.7	17.3	
LOS	C	C	A	C	C		C	B		C	B	
Approach Delay		9.6			20.1			17.2			20.9	
Approach LOS		A			C			B			C	
Queue Length 50th (ft)	0	62	0	1	71		52	63		23	22	
Queue Length 95th (ft)	4	173	39	6	#201		#180	187		76	66	
Internal Link Dist (ft)		754			349			452			160	
Turn Bay Length (ft)	100											
Base Capacity (vph)	314	680	1227	314	736		428	900		311	681	
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.00	0.43	0.34	0.01	0.49		0.52	0.49		0.31	0.15	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 47.2			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 15.3		Intersection LOS: B	
Intersection Capacity Utilization 54.4%		ICU Level of Service A	
Analysis Period (min) 15			

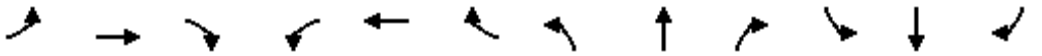
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 114: Calle Del Sol & Calle De Luna



Cumulative + Project Scheme C (With Lick Mill Connection)

PM Peak Hour



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	910	1106	52	1233	852	172	84	1992	878	347	1336	459
Future Volume (vph)	910	1106	52	1233	852	172	84	1992	878	347	1336	459
Ideal Flow (vphpl)	1744	2040	2100	1733	2040	2100	1744	2130	2100	1744	2130	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	270		110	245		100	170		0	250		250
Storage Lanes	2		1	3		1	2		1	2		1
Taper Length (ft)	115			140			100			65		
Lane Util. Factor	0.97	0.95	1.00	0.94	0.95	1.00	0.97	0.91	1.00	0.97	0.91	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	3800	1750	4552	3800	1750	3151	5701	1750	3151	5701	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82			82			456			478
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		768			695			1240			859	
Travel Time (s)		17.5			15.8			28.2			19.5	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	989	1202	57	1340	926	187	91	2165	954	377	1452	499
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	4	3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	31.0	34.0	34.0	29.0	32.0	32.0	11.0	42.0	42.0	15.0	46.0	46.0
Total Split (%)	25.8%	28.3%	28.3%	24.2%	26.7%	26.7%	9.2%	35.0%	35.0%	12.5%	38.3%	38.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Min	Min	None	Min	Min	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	28.0	31.0	31.0	26.0	29.0	29.0	7.9	39.0	39.0	12.0	43.1	43.1
Actuated g/C Ratio	0.23	0.26	0.26	0.22	0.24	0.24	0.07	0.32	0.32	0.10	0.36	0.36

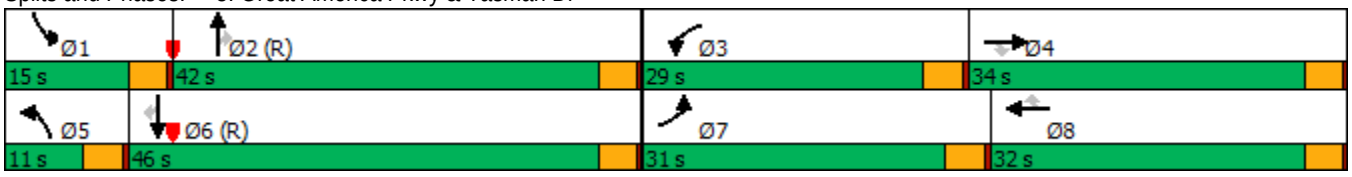
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.35	1.23	0.11	1.36	1.01	0.39	0.44	1.17	1.09	1.20	0.71	0.53
Control Delay	201.4	149.2	3.7	198.4	61.2	16.9	63.3	117.2	79.6	162.3	35.5	10.4
Queue Delay	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	10.6	65.2	0.0	0.0
Total Delay	201.4	149.3	3.7	198.4	61.2	16.9	63.3	117.2	90.2	227.5	35.5	10.4
LOS	F	F	A	F	E	B	E	F	F	F	D	B
Approach Delay		168.5			132.8			107.6			61.2	
Approach LOS		F			F			F			E	
Queue Length 50th (ft)	~516	~603	0	~482	~395	73	37	~703	~539	~187	245	86
Queue Length 95th (ft)	#645	#740	18	m#573	m#487	m76	m50	m#724	m#673	m#239	m293	m125
Internal Link Dist (ft)		688			615			1160			779	
Turn Bay Length (ft)	270		110	245		100	170			250		250
Base Capacity (vph)	735	981	512	986	918	485	210	1852	876	315	2049	935
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	22	0	0	0	0	0	0	492	288	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.35	1.25	0.11	1.36	1.01	0.39	0.43	1.17	2.48	13.96	0.71	0.53

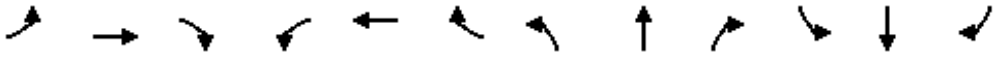
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green, Master Intersection
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.36
Intersection Signal Delay: 116.5 Intersection LOS: F
Intersection Capacity Utilization 112.6% ICU Level of Service H
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Great America Pkwy & Tasman Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	373	2082	33	21	1024	95	22	10	26	934	1	100
Future Volume (vph)	373	2082	33	21	1024	95	22	10	26	934	1	100
Ideal Flow (vphpl)	1744	1991	1900	1879	2040	2100	1900	1936	1900	1978	2030	2100
Storage Length (ft)	185		0	195		175	0		0	0		0
Storage Lanes	2		0	1		1	0		0	1		1
Taper Length (ft)	115			75			25			25		
Lane Util. Factor	0.97	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.998				0.850		0.940				0.850
Flt Protected	0.950			0.950				0.981		0.950	0.952	
Satd. Flow (prot)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Flt Permitted	0.950			0.950				0.981		0.950	0.952	
Satd. Flow (perm)	3151	3701	0	1750	3800	1750	0	1750	0	1750	1800	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1				95		22				95
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		835			681			315			406	
Travel Time (s)		19.0			15.5			7.2			9.2	
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
Shared Lane Traffic (%)										50%		
Lane Group Flow (vph)	405	2299	0	23	1113	103	0	63	0	507	509	109
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases						8						6
Detector Phase	7	4		3	8	8	2	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	22.0		11.0	22.0	22.0	22.0	22.0		22.0	22.0	22.0
Total Split (s)	29.0	77.0		11.0	59.0	59.0	23.0	23.0		39.0	39.0	39.0
Total Split (%)	19.3%	51.3%		7.3%	39.3%	39.3%	15.3%	15.3%		26.0%	26.0%	26.0%
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5		0.5	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0	-1.0		-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0		3.0	3.0	3.0		3.0		3.0	3.0	3.0
Lead/Lag	Lead	Lag		Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes						
Recall Mode	None	Min		None	Min	Min	None	None		None	None	None
Act Effct Green (s)	22.3	74.5		7.5	55.5	55.5		9.8		36.2	36.2	36.2
Actuated g/C Ratio	0.17	0.56		0.06	0.42	0.42		0.07		0.27	0.27	0.27
v/c Ratio	0.77	1.11		0.23	0.71	0.13		0.43		1.07	1.04	0.20
Control Delay	64.6	88.3		69.7	36.5	6.6		51.6		107.6	100.0	11.4
Queue Delay	0.0	0.2		0.0	0.8	0.0		0.0		0.0	0.0	0.0
Total Delay	64.6	88.5		69.7	37.3	6.6		51.6		107.6	100.0	11.4
LOS	E	F		E	D	A		D		F	F	B
Approach Delay		84.9			35.4			51.6			94.9	
Approach LOS		F			D			D			F	
Queue Length 50th (ft)	182	~1313		20	434	4		36		~558	~549	10
Queue Length 95th (ft)	245	#1514		52	556	43		85		#826	#820	60
Internal Link Dist (ft)		755			601			235			326	
Turn Bay Length (ft)	185			195		175						
Base Capacity (vph)	617	2064		105	1615	798		282		474	488	544
Starvation Cap Reductn	0	143		0	223	0		0		0	0	0
Spillback Cap Reductn	0	0		0	0	0		0		0	0	0

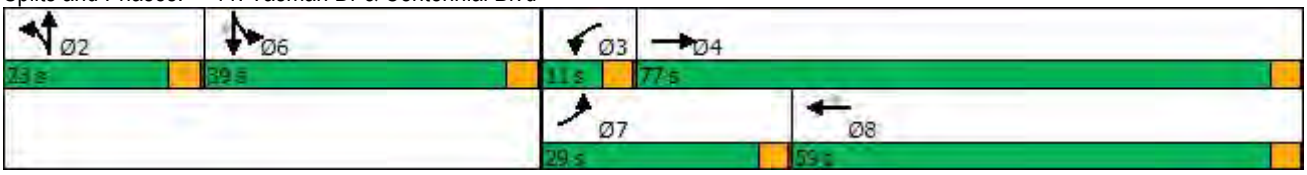
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0		0	0	0		0		0	0	0
Reduced v/c Ratio	0.66	1.20		0.22	0.80	0.13		0.22		1.07	1.04	0.20

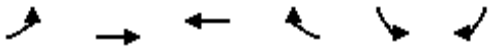
Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 133.6			
Natural Cycle: 150			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 74.7		Intersection LOS: E	
Intersection Capacity Utilization 100.8%		ICU Level of Service G	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 11: Tasman Dr & Centennial Blvd





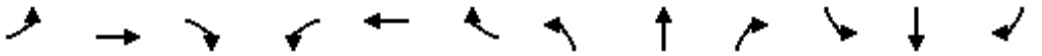
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	270	2460	1125	513	166	301
Future Volume (vph)	270	2460	1125	513	166	301
Ideal Flow (vphpl)	1744	2040	2040	2100	1744	2100
Lane Width (ft)	12	12	12	12	12	12
Grade (%)		0%	0%		0%	
Storage Length (ft)	170			120	0	0
Storage Lanes	2			1	2	1
Taper Length (ft)	75				25	
Lane Util. Factor	0.97	0.95	0.95	1.00	0.97	1.00
Ped Bike Factor						
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	3800	3800	1750	3151	1750
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	3800	3800	1750	3151	1750
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				81		61
Link Speed (mph)		30	30		30	
Link Distance (ft)		1177	775		490	
Travel Time (s)		26.8	17.6		11.1	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Shared Lane Traffic (%)						
Lane Group Flow (vph)	293	2674	1223	558	180	327
Turn Type	Prot	NA	NA	pm+ov	Prot	pm+ov
Protected Phases	7	4	8	1	1	7
Permitted Phases				8		1
Detector Phase	7	4	8	1	1	7
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	20.0	11.0	11.0	11.0
Total Split (s)	12.0	49.0	37.0	11.0	11.0	12.0
Total Split (%)	20.0%	81.7%	61.7%	18.3%	18.3%	20.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead		Lag			Lead
Lead-Lag Optimize?	Yes		Yes			Yes
Recall Mode	None	None	None	None	None	None
Act Effct Green (s)	8.9	46.0	34.1	45.0	7.9	19.8
Actuated g/C Ratio	0.15	0.77	0.57	0.75	0.13	0.33

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
v/c Ratio	0.62	0.92	0.57	0.42	0.44	0.53
Control Delay	30.5	12.5	9.5	3.3	27.6	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	12.5	9.5	3.3	27.6	16.7
LOS	C	B	A	A	C	B
Approach Delay		14.3	7.6		20.6	
Approach LOS		B	A		C	
Queue Length 50th (ft)	52	266	132	41	31	74
Queue Length 95th (ft)	87	#483	182	72	57	142
Internal Link Dist (ft)		1097	695		410	
Turn Bay Length (ft)	170			120		
Base Capacity (vph)	473	2920	2163	1337	421	621
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	0.62	0.92	0.57	0.42	0.43	0.53

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 59.9			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 13: Tasman Dr & Calle Del Sol



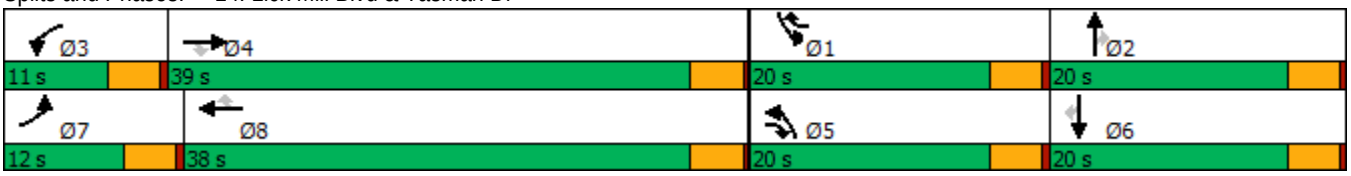
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	1581	1056	258	816	324	583	147	171	507	263	313
Future Volume (vph)	63	1581	1056	258	816	324	583	147	171	507	263	313
Ideal Flow (vphpl)	1879	2040	2100	1744	2040	2100	1744	1938	2100	1744	1938	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	145		345	160		110	0		100	0		25
Storage Lanes	1		1	2		1	2		1	2		1
Taper Length (ft)	80			65			25			25		
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95	1.00	0.97	1.00	1.00	0.97	1.00	1.00
Ped Bike Factor												
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	3800	1750	3151	3800	1750	3151	1900	1750	3151	1900	1750
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			107			352			141			117
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		775			593			379			432	
Travel Time (s)		17.6			13.5			8.6			9.8	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	1718	1148	280	887	352	634	160	186	551	286	340
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4	5	3	8	1	5	2		1	6	
Permitted Phases			4			8			2			6
Detector Phase	7	4	5	3	8	1	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0	11.0	11.0	20.0	20.0	11.0	20.0	20.0
Total Split (s)	12.0	39.0	20.0	11.0	38.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (%)	13.3%	43.3%	22.2%	12.2%	42.2%	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%	22.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effct Green (s)	8.4	36.0	56.0	8.0	37.5	57.5	17.0	17.0	17.0	17.0	17.0	17.0
Actuated g/C Ratio	0.09	0.40	0.62	0.09	0.42	0.64	0.19	0.19	0.19	0.19	0.19	0.19

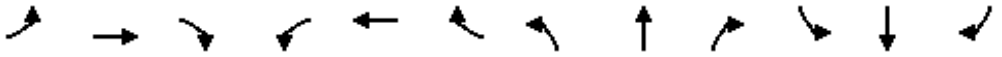
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.42	1.13	1.02	1.00	0.56	0.28	1.07	0.45	0.42	0.93	0.80	0.80
Control Delay	46.3	95.0	48.5	97.0	22.4	1.5	92.3	36.9	12.9	59.8	53.1	38.4
Queue Delay	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.3	95.0	49.3	97.0	22.4	1.5	92.3	36.9	12.9	59.8	53.1	38.4
LOS	D	F	D	F	C	A	F	D	B	E	D	D
Approach Delay		76.0			31.3			68.2			52.0	
Approach LOS		E			C			E			D	
Queue Length 50th (ft)	37	~602	~611	83	207	0	~207	81	22	160	157	123
Queue Length 95th (ft)	79	#738	#921	#165	269	31	#313	142	79	#257	#283	#260
Internal Link Dist (ft)		695			513			299			352	
Turn Bay Length (ft)	145		345	160		110			100			25
Base Capacity (vph)	175	1520	1129	280	1583	1245	595	358	444	595	358	425
Starvation Cap Reductn	0	0	3	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.39	1.13	1.02	1.00	0.56	0.28	1.07	0.45	0.42	0.93	0.80	0.80

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Natural Cycle: 100
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 60.3 Intersection LOS: E
Intersection Capacity Utilization 93.7% ICU Level of Service F
Analysis Period (min) 15
~ 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.

Splits and Phases: 14: Lick Mill Blvd & Tasman Dr





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	82	23	141	9	305	21	3427	1301	287	1205	7
Future Volume (vph)	60	82	23	141	9	305	21	3427	1301	287	1205	7
Ideal Flow (vphpl)	1879	1938	2100	1967	2485	2148	1879	2182	1900	1744	2095	1900
Storage Length (ft)	60		60	115		100	50		0	150		0
Storage Lanes	1		1	1		1	1		0	2		0
Taper Length (ft)	25			65			115			95		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Frt			0.850			0.850		0.959			0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1750	1900	1750	1832	2436	3150	1750	5601	0	3151	5602	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1750	1900	1750	1832	2436	3150	1750	5601	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			82			47		149			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		343			1927			1191			553	
Travel Time (s)		7.8			43.8			27.1			12.6	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	89	25	153	10	332	23	5139	0	312	1318	0
Turn Type	Prot	NA	Perm	Prot	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	4		7	8	1	5	2		1	6	
Permitted Phases			4			8						
Detector Phase	3	4	4	7	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	20.0	11.0	20.0	11.0	11.0	20.0		11.0	20.0	
Total Split (s)	11.0	20.0	20.0	11.0	20.0	12.0	11.0	77.0		12.0	78.0	
Total Split (%)	9.2%	16.7%	16.7%	9.2%	16.7%	10.0%	9.2%	64.2%		10.0%	65.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Min		None	C-Min	
Act Effct Green (s)	16.8	11.9	11.9	8.0	11.1	22.2	7.9	74.0		14.1	84.1	
Actuated g/C Ratio	0.14	0.10	0.10	0.07	0.09	0.18	0.07	0.62		0.12	0.70	
v/c Ratio	0.27	0.47	0.10	1.25	0.04	0.53	0.20	1.46		0.85	0.34	
Control Delay	49.4	58.6	0.8	210.2	49.8	42.5	49.9	229.0		94.6	3.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.1	
Total Delay	49.4	58.6	0.8	210.2	49.8	42.5	49.9	229.0		94.6	3.0	
LOS	D	E	A	F	D	D	D	F		F	A	
Approach Delay		47.2			94.5			228.2			20.6	
Approach LOS		D			F			F			C	
Queue Length 50th (ft)	43	66	0	~148	8	124	18	~2000		131	45	
Queue Length 95th (ft)	#106	117	0	#285	23	154	m0	m#590		#249	60	
Internal Link Dist (ft)		263			1847			1111			473	
Turn Bay Length (ft)	60		60	115		100	50			150		
Base Capacity (vph)	247	269	318	122	353	621	122	3511		369	3925	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	813	
Spillback Cap Reductn	0	0	0	0	0	0	0	51		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.26	0.33	0.08	1.25	0.03	0.53	0.19	1.49		0.85	0.42	

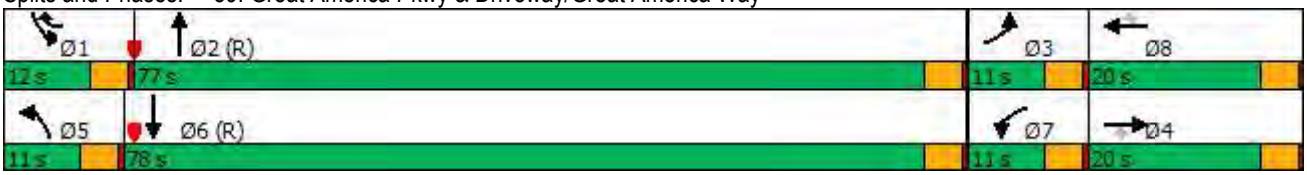
Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.46			
Intersection Signal Delay: 169.7		Intersection LOS: F	
Intersection Capacity Utilization 116.1%		ICU Level of Service H	
Analysis Period (min) 15			

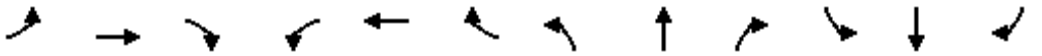
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 59: Great America Pkwy & Driveway/Great America Way





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	794	77	166	67	10	49	83	3916	45	11	1299	139
Future Volume (vph)	794	77	166	67	10	49	83	3916	45	11	1299	139
Ideal Flow (vphpl)	1744	2045	1900	1879	2096	2148	1879	2097	2242	1879	2122	2100
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	130		0	80		0	150		0	110		0
Storage Lanes	2		0	1		0	1		0	1		0
Taper Length (ft)	25			65			25			90		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	1.00	0.91	0.91
Ped Bike Factor												
Frt		0.898			0.876			0.998			0.986	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3151	1800	0	1750	1800	0	1750	5601	0	1750	5600	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3151	1800	0	1750	1800	0	1750	5601	0	1750	5600	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		85			53			2			20	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		764			389			446			1191	
Travel Time (s)		17.4			8.8			10.1			27.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	863	264	0	73	64	0	90	4306	0	12	1563	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0		11.0	20.0		11.0	20.0		11.0	20.0	
Total Split (s)	25.0	32.0		13.0	20.0		15.0	64.0		11.0	60.0	
Total Split (%)	20.8%	26.7%		10.8%	16.7%		12.5%	53.3%		9.2%	50.0%	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5		0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Min		None	C-Min	
Act Effct Green (s)	22.0	21.7		9.4	9.0		12.0	77.4		7.4	67.0	
Actuated g/C Ratio	0.18	0.18		0.08	0.08		0.10	0.64		0.06	0.56	

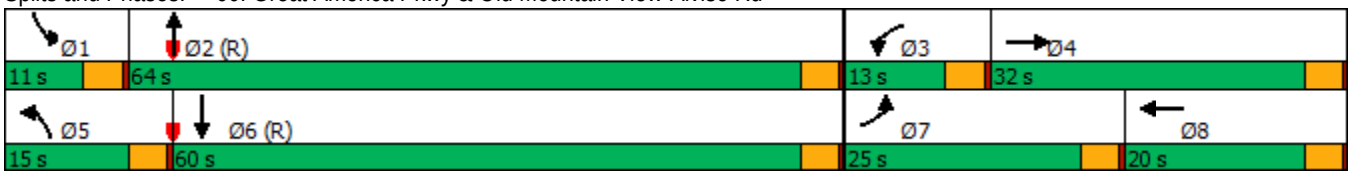
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	1.50	0.67		0.54	0.35		0.52	1.19		0.11	0.50	
Control Delay	267.3	39.4		67.7	22.6		53.7	107.6		52.5	11.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.2		0.0	0.0	
Total Delay	267.3	39.4		67.7	22.6		53.7	107.8		52.5	11.6	
LOS	F	D		E	C		D	F		D	B	
Approach Delay		213.9			46.6			106.7			11.9	
Approach LOS		F			D			F			B	
Queue Length 50th (ft)	~476	134		55	8		68	~1409		9	138	
Queue Length 95th (ft)	#603	213		106	50		m64	m#1538		m28	190	
Internal Link Dist (ft)		684			309			366			1111	
Turn Bay Length (ft)	130			80			150			110		
Base Capacity (vph)	577	499		145	300		190	3612		119	3133	
Starvation Cap Reductn	0	0		0	0		0	367		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	1.50	0.53		0.50	0.21		0.47	1.33		0.10	0.50	

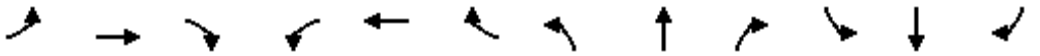
Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.50
Intersection Signal Delay: 101.6 Intersection LOS: F
Intersection Capacity Utilization 107.8% ICU Level of Service G
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 60: Great America Pkwy & Old Mountain View-Alviso Rd





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	164	0	1217	0	2760	296	451	1219	0
Future Volume (vph)	0	0	0	164	0	1217	0	2760	296	451	1219	0
Ideal Flow (vphpl)	1785	1900	1785	1744	1900	2148	1900	2124	1900	1744	2093	1900
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)		0%			0%			0%			0%	
Storage Length (ft)	0		0	0		0	0		250	150		0
Storage Lanes	1		1	2		2	0		0	2		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	0.88	1.00	0.91	0.91	0.97	0.91	0.91
Ped Bike Factor												
Frt						0.850		0.985				
Flt Protected				0.950						0.950		
Satd. Flow (prot)	1750	0	1750	3151	0	3150	0	5600	0	3151	5602	0
Flt Permitted				0.950						0.950		
Satd. Flow (perm)	1750	0	1750	3151	0	3150	0	5600	0	3151	5602	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						9		24				
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		261			2574			838			446	
Travel Time (s)		5.9			58.5			19.0			10.1	
Confl. Peds. (#/hr)												
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	178	0	1323	0	3322	0	490	1325	0
Turn Type	Prot		Perm	Prot		pm+ov		NA		Prot	NA	
Protected Phases	7			3		1		2		1	6	
Permitted Phases			7			3						
Detector Phase	7		7	3		1		2		1	6	
Switch Phase												
Minimum Initial (s)	4.0		4.0	4.0		4.0		4.0		4.0	4.0	
Minimum Split (s)	11.0		11.0	11.0		11.0		20.0		11.0	20.0	
Total Split (s)	11.0		11.0	11.0		39.0		70.0		39.0	109.0	
Total Split (%)	9.2%		9.2%	9.2%		32.5%		58.3%		32.5%	90.8%	
Yellow Time (s)	3.5		3.5	3.5		3.5		3.5		3.5	3.5	
All-Red Time (s)	0.5		0.5	0.5		0.5		0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0		-1.0	-1.0		-1.0		-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0		3.0	3.0		3.0		3.0		3.0	3.0	
Lead/Lag						Lag		Lead		Lag		
Lead-Lag Optimize?						Yes		Yes		Yes		
Recall Mode	None		None	None		None		C-Max		None	C-Max	
Act Effct Green (s)				8.0		47.0		67.0		36.0	106.0	
Actuated g/C Ratio				0.07		0.39		0.56		0.30	0.88	

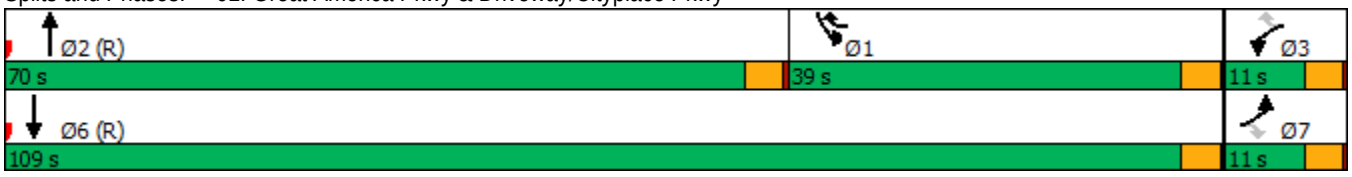
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio				0.85		1.07		1.06		0.52	0.27	
Control Delay				88.1		81.2		50.1		39.9	0.6	
Queue Delay				0.0		20.6		17.6		0.0	0.1	
Total Delay				88.1		101.8		67.7		39.9	0.7	
LOS				F		F		E		D	A	
Approach Delay					100.2			67.7			11.3	
Approach LOS					F			E			B	
Queue Length 50th (ft)				71		~643		~1019		191	3	
Queue Length 95th (ft)				#135		#794		m#577		243	4	
Internal Link Dist (ft)		181			2494			758			366	
Turn Bay Length (ft)										150		
Base Capacity (vph)				210		1239		3137		945	4948	
Starvation Cap Reductn				0		0		78		0	2110	
Spillback Cap Reductn				0		844		183		0	0	
Storage Cap Reductn				0		0		0		0	0	
Reduced v/c Ratio				0.85		3.35		1.12		0.52	0.47	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 59.6 Intersection LOS: E
Intersection Capacity Utilization 97.9% ICU Level of Service F
Analysis Period (min) 15

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 61: Great America Pkwy & Driveway/Cityplace Pkwy



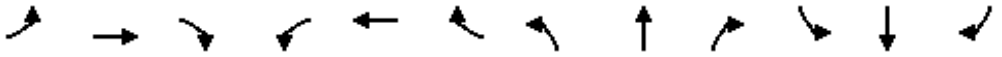
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	637	236	2821	646	269	1114
Future Volume (vph)	637	236	2821	646	269	1114
Ideal Flow (vphpl)	1744	2100	2153	1900	1744	2130
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		300	300	
Storage Lanes	2	1		0	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.91	0.91	0.97	0.91
Ped Bike Factor						
Frt		0.850	0.972			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	5601	0	3151	5701
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	5601	0	3151	5701
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		1	83			
Link Speed (mph)	30		30			30
Link Distance (ft)	989		472			838
Travel Time (s)	22.5		10.7			19.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	692	257	3768	0	292	1211
Turn Type	Prot	pm+ov	NA		Prot	NA
Protected Phases	8	1	2		1	6
Permitted Phases		8				
Detector Phase	8	1	2		1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0		4.0	4.0
Minimum Split (s)	11.0	11.0	20.0		11.0	20.0
Total Split (s)	28.0	14.0	78.0		14.0	92.0
Total Split (%)	23.3%	11.7%	65.0%		11.7%	76.7%
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5
All-Red Time (s)	0.5	0.5	0.5		0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0		-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0		3.0	3.0
Lead/Lag		Lead	Lag		Lead	
Lead-Lag Optimize?		Yes	Yes		Yes	
Recall Mode	None	None	C-Max		None	C-Max
Act Effct Green (s)	25.0	39.0	75.0		11.0	89.0
Actuated g/C Ratio	0.21	0.32	0.62		0.09	0.74

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	1.05	0.45	1.07		1.01	0.29
Control Delay	96.3	35.1	49.8		115.6	3.1
Queue Delay	17.9	0.0	14.6		0.0	0.0
Total Delay	114.1	35.1	64.5		115.6	3.1
LOS	F	D	E		F	A
Approach Delay	92.7		64.5			25.0
Approach LOS	F		E			C
Queue Length 50th (ft)	~302	156	~1187		~125	45
Queue Length 95th (ft)	#421	236	m989		m#212	57
Internal Link Dist (ft)	909		392			758
Turn Bay Length (ft)					300	
Base Capacity (vph)	656	569	3531		288	4228
Starvation Cap Reductn	0	0	835		0	0
Spillback Cap Reductn	70	0	393		0	680
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	1.18	0.45	1.40		1.01	0.34

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.07			
Intersection Signal Delay: 59.2		Intersection LOS: E	
Intersection Capacity Utilization 99.0%		ICU Level of Service F	
Analysis Period (min) 15			

~ 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 62: Great America Pkwy & Second St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	226	1	1444	0	0	0	291	818	0	1	618	15
Future Volume (vph)	226	1	1444	0	0	0	291	818	0	1	618	15
Ideal Flow (vphpl)	1879	1900	2148	1900	1900	1900	1879	2040	1900	1900	1995	1900
Storage Length (ft)	110		0	0		0	210		0	90		0
Storage Lanes	1		1	0		0	1		0	1		1
Taper Length (ft)	35			25			85			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt			0.850									0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	1750	1863	1790	0	0	0	1750	3800	0	1770	1956	1583
Flt Permitted	0.950						0.950			0.320		
Satd. Flow (perm)	1750	1863	1790	0	0	0	1750	3800	0	596	1956	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			54									36
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1927			114			397			584	
Travel Time (s)		43.8			2.6			9.0			13.3	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	246	1	1570	0	0	0	316	889	0	1	672	16
Turn Type	Perm	NA	pm+ov				Prot	NA		Perm	NA	Perm
Protected Phases		4	5				5	2			6	
Permitted Phases	4		4							6		6
Detector Phase	4	4	5				5	2		6	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0				4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0				20.0	20.0		20.0	20.0	20.0
Total Split (s)	21.0	21.0	81.0				81.0	129.0		48.0	48.0	48.0
Total Split (%)	14.0%	14.0%	54.0%				54.0%	86.0%		32.0%	32.0%	32.0%
Yellow Time (s)	3.5	3.5	3.5				3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5				0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0				-1.0	-1.0		-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0				3.0	3.0		3.0	3.0	3.0
Lead/Lag			Lead				Lead			Lag	Lag	Lag
Lead-Lag Optimize?			Yes				Yes			Yes	Yes	Yes
Recall Mode	Min	Min	None				None	C-Max		None	None	None
Act Effct Green (s)	18.0	18.0	99.0				78.0	126.0		45.0	45.0	45.0
Actuated g/C Ratio	0.12	0.12	0.66				0.52	0.84		0.30	0.30	0.30
v/c Ratio	1.17	0.00	1.31				0.35	0.28		0.01	1.15	0.03
Control Delay	171.1	58.0	170.3				22.5	2.7		37.0	131.1	2.2
Queue Delay	0.0	0.0	0.0				3.7	1.1		0.0	0.0	0.0
Total Delay	171.1	58.0	170.3				26.1	3.8		37.0	131.1	2.2
LOS	F	E	F				C	A		D	F	A
Approach Delay		170.4						9.7			128.0	
Approach LOS		F						A			F	
Queue Length 50th (ft)	~286	1	~1959				177	76		1	~768	0
Queue Length 95th (ft)	#467	7	#2226				248	91		6	#1013	5
Internal Link Dist (ft)		1847			34			317			504	
Turn Bay Length (ft)	110						210			90		
Base Capacity (vph)	210	223	1199				910	3192		178	586	500
Starvation Cap Reductn	0	0	0				495	1961		0	0	0
Spillback Cap Reductn	0	0	0				0	0		0	0	0

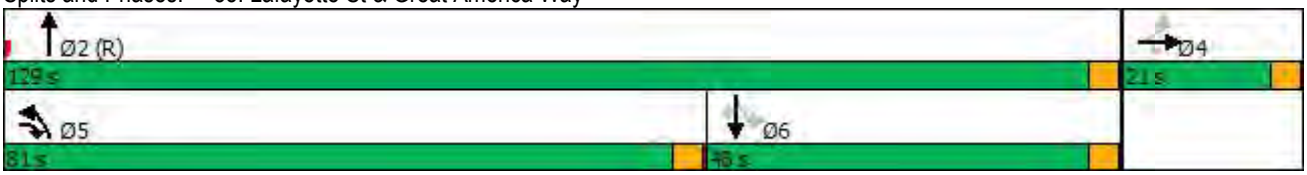
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0				0	0		0	0	0
Reduced v/c Ratio	1.17	0.00	1.31				0.76	0.72		0.01	1.15	0.03

Intersection Summary	
Area Type:	Other
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 0 (0%), Referenced to phase 2:NBT, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.31	
Intersection Signal Delay: 110.3	Intersection LOS: F
Intersection Capacity Utilization 116.7%	ICU Level of Service H
Analysis Period (min) 15	

~ 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.

Splits and Phases: 85: Lafayette St & Great America Way



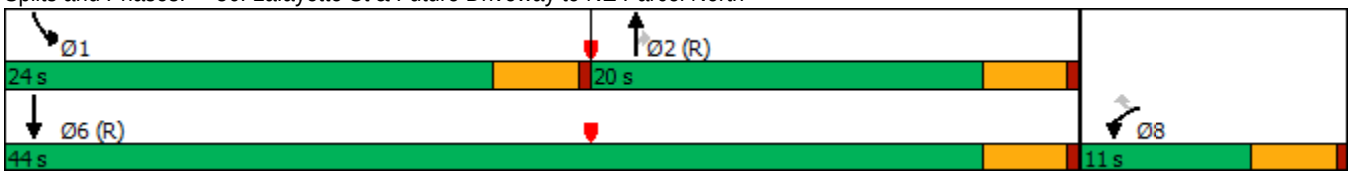
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	166	277	894	248	939	1124
Future Volume (vph)	166	277	894	248	939	1124
Ideal Flow (vphpl)	2012	2308	2040	2100	1879	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	200		400	75	
Storage Lanes	2	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	0.91	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt	0.933	0.850		0.850		
Flt Protected	0.973				0.950	
Satd. Flow (prot)	3474	1750	3800	1750	1750	3800
Flt Permitted	0.973				0.950	
Satd. Flow (perm)	3474	1750	3800	1750	1750	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)	147	154		270		
Link Speed (mph)	30		30			30
Link Distance (ft)	674		1025			397
Travel Time (s)	15.3		23.3			9.0
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)		49%				
Lane Group Flow (vph)	327	154	972	270	1021	1222
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	20.0	20.0	24.0	44.0
Total Split (%)	20.0%	20.0%	36.4%	36.4%	43.6%	80.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	8.0	8.0	17.0	17.0	21.0	41.0
Actuated g/C Ratio	0.15	0.15	0.31	0.31	0.38	0.75

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.52	0.40	0.83	0.37	1.53	0.43
Control Delay	15.2	8.1	25.6	4.0	266.2	3.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.3
Total Delay	15.2	8.1	25.6	4.0	266.2	3.4
LOS	B	A	C	A	F	A
Approach Delay	12.9		20.9			123.0
Approach LOS	B		C			F
Queue Length 50th (ft)	27	0	153	0	~487	53
Queue Length 95th (ft)	59	45	#246	42	#686	74
Internal Link Dist (ft)	594		945			317
Turn Bay Length (ft)		200		400	75	
Base Capacity (vph)	630	386	1174	727	668	2832
Starvation Cap Reductn	0	0	0	0	0	817
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.40	0.83	0.37	1.53	0.61

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.53			
Intersection Signal Delay: 77.7		Intersection LOS: E	
Intersection Capacity Utilization 92.8%		ICU Level of Service F	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 86: Lafayette St & Future Driveway to NE Parcel North



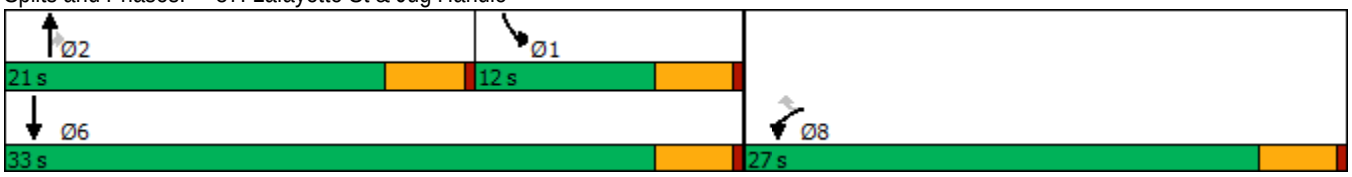
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1013	310	832	450	330	958
Future Volume (vph)	1013	310	832	450	330	958
Ideal Flow (vphpl)	1744	2100	2040	2148	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		400	400	
Storage Lanes	2	1		2	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	0.88	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	3151	1750	3800	3150	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	3151	1750	3800	3150	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		337		489		
Link Speed (mph)	30		30			30
Link Distance (ft)	767		890			1025
Travel Time (s)	17.4		20.2			23.3
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1101	337	904	489	359	1041
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	27.0	27.0	21.0	21.0	12.0	33.0
Total Split (%)	45.0%	45.0%	35.0%	35.0%	20.0%	55.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	None	None	Min	Min	None	Min
Act Effct Green (s)	23.5	23.5	18.0	18.0	9.0	30.0
Actuated g/C Ratio	0.39	0.39	0.30	0.30	0.15	0.50

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.89	0.38	0.79	0.38	0.75	0.54
Control Delay	27.5	3.1	25.4	2.8	36.5	11.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.5	3.1	25.4	2.8	36.5	11.5
LOS	C	A	C	A	D	B
Approach Delay	21.8		17.5			17.9
Approach LOS	C		B			B
Queue Length 50th (ft)	181	0	156	0	65	126
Queue Length 95th (ft)	#297	41	#224	31	#121	175
Internal Link Dist (ft)	687		810			945
Turn Bay Length (ft)				400	400	
Base Capacity (vph)	1271	907	1150	1294	476	1917
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	0.87	0.37	0.79	0.38	0.75	0.54

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 59.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 19.1 Intersection LOS: B
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 87: Lafayette St & Jug Handle



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	20	25	1257	25	220	1751
Future Volume (vph)	20	25	1257	25	220	1751
Ideal Flow (vphpl)	1656	1785	2040	1785	1744	2040
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%			0%
Storage Length (ft)	0	0		300	200	
Storage Lanes	2	1		1	2	
Taper Length (ft)	25				25	
Lane Util. Factor	0.97	1.00	0.95	1.00	0.97	0.95
Ped Bike Factor						
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	2992	1488	3800	1488	3151	3800
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	2992	1488	3800	1488	3151	3800
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		27		27		
Link Speed (mph)	30		30			30
Link Distance (ft)	641		870			890
Travel Time (s)	14.6		19.8			20.2
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	27	1366	27	239	1903
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	11.0	11.0	37.0	37.0	12.0	49.0
Total Split (%)	18.3%	18.3%	61.7%	61.7%	20.0%	81.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag			Lead	Lead	Lag	
Lead-Lag Optimize?			Yes	Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	8.0	8.0	34.0	34.0	9.0	46.0
Actuated g/C Ratio	0.13	0.13	0.57	0.57	0.15	0.77

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
v/c Ratio	0.06	0.12	0.63	0.03	0.51	0.65
Control Delay	23.2	11.7	10.5	2.7	27.7	4.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.2	11.7	10.5	2.7	27.7	4.6
LOS	C	B	B	A	C	A
Approach Delay	16.9		10.3			7.2
Approach LOS	B		B			A
Queue Length 50th (ft)	3	0	155	0	41	112
Queue Length 95th (ft)	12	19	214	8	72	155
Internal Link Dist (ft)	561		790			810
Turn Bay Length (ft)				300	200	
Base Capacity (vph)	398	221	2153	854	472	2913
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	0.06	0.12	0.63	0.03	0.51	0.65

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 45			
Control Type: Pretimed			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 55.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 88: Lafayette St & Access Rd

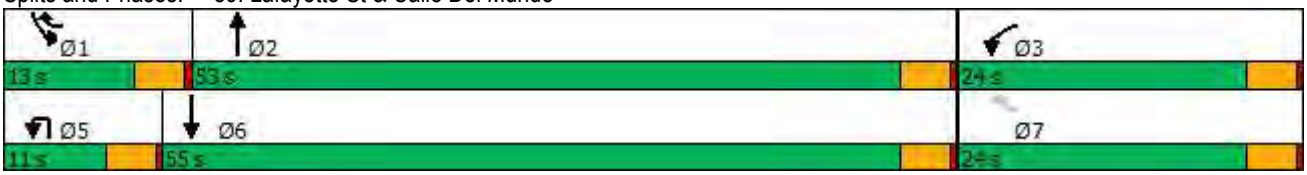
Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT	Ø7
Lane Configurations								
Traffic Volume (vph)	343	296	0	975	272	8	1925	
Future Volume (vph)	343	296	0	975	272	8	1925	
Ideal Flow (vphpl)	1879	2100	1785	2054	1900	1879	2040	
Storage Length (ft)	0	0	60		0	120		
Storage Lanes	1	1	1		0	1		
Taper Length (ft)	25		85			70		
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00	0.95	
Frt		0.850		0.967				
Flt Protected	0.950					0.950		
Satd. Flow (prot)	1750	1750	1750	3700	0	1750	3800	
Flt Permitted	0.950					0.950		
Satd. Flow (perm)	1750	1750	1750	3700	0	1750	3800	
Right Turn on Red		Yes			Yes			
Satd. Flow (RTOR)		86		64				
Link Speed (mph)	30			30			30	
Link Distance (ft)	1338			471			870	
Travel Time (s)	30.4			10.7			19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Shared Lane Traffic (%)								
Lane Group Flow (vph)	373	322	0	1356	0	9	2092	
Turn Type	Prot	pm+ov	Prot	NA		Prot	NA	
Protected Phases	3	1	5	2		1	6	7
Permitted Phases		7						
Detector Phase	3	1	5	2		1	6	
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	11.0	11.0	11.0	20.0		11.0	20.0	11.0
Total Split (s)	24.0	13.0	11.0	53.0		13.0	55.0	24.0
Total Split (%)	26.7%	14.4%	12.2%	58.9%		14.4%	61.1%	27%
Yellow Time (s)	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5		0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0		3.0	3.0	
Lead/Lag		Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	Min		None	Min	None
Act Effct Green (s)	20.5	30.7		44.2		7.1	54.4	
Actuated g/C Ratio	0.25	0.38		0.55		0.09	0.67	
v/c Ratio	0.84	0.45		0.66		0.06	0.82	
Control Delay	48.1	16.2		14.3		36.4	13.2	
Queue Delay	0.0	0.0		0.4		0.0	0.0	
Total Delay	48.1	16.2		14.7		36.4	13.2	
LOS	D	B		B		D	B	
Approach Delay	33.3			14.7			13.3	
Approach LOS	C			B			B	
Queue Length 50th (ft)	171	80		227		4	357	
Queue Length 95th (ft)	#362	172		304		19	455	
Internal Link Dist (ft)	1258			391			790	
Turn Bay Length (ft)						120		
Base Capacity (vph)	455	776		2317		216	2553	
Starvation Cap Reductn	0	0		416		0	0	
Spillback Cap Reductn	0	0		0		0	0	

Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT	Ø7
Storage Cap Reductn	0	0		0		0	0	
Reduced v/c Ratio	0.82	0.41		0.71		0.04	0.82	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 80.9			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 75.4%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 89: Lafayette St & Calle Del Mundo



Lane Group	WBL	WBR	NBU	NBT	NBR	SBL	SBT
Lane Configurations							
Traffic Volume (vph)	658	305	0	957	532	17	2266
Future Volume (vph)	658	305	0	957	532	17	2266
Ideal Flow (vphpl)	1744	2100	1785	2040	2100	1879	2040
Storage Length (ft)	0	0	60		0	180	
Storage Lanes	2	1	1		1	1	
Taper Length (ft)	25		85			100	
Lane Util. Factor	0.97	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850			0.850		
Flt Protected	0.950					0.950	
Satd. Flow (prot)	3151	1750	1750	3800	1750	1750	3800
Flt Permitted	0.950					0.950	
Satd. Flow (perm)	3151	1750	1750	3800	1750	1750	3800
Right Turn on Red		Yes			Yes		
Satd. Flow (RTOR)		103			578		
Link Speed (mph)	30			30			30
Link Distance (ft)	852			1090			471
Travel Time (s)	19.4			24.8			10.7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Shared Lane Traffic (%)							
Lane Group Flow (vph)	715	332	0	1040	578	18	2463
Turn Type	Prot	pm+ov	Prot	NA	Perm	Prot	NA
Protected Phases	8	1	5	2		1	6
Permitted Phases		8			2		
Minimum Split (s)	11.0	11.0	11.0	20.0	20.0	11.0	20.0
Total Split (s)	30.0	17.0	11.0	73.0	73.0	17.0	79.0
Total Split (%)	25.0%	14.2%	9.2%	60.8%	60.8%	14.2%	65.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag		Lead	Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	27.0	44.0		70.0	70.0	14.0	76.0
Actuated g/C Ratio	0.22	0.37		0.58	0.58	0.12	0.63
v/c Ratio	1.01	0.47		0.47	0.46	0.09	1.02
Control Delay	82.7	22.0		15.2	2.2	48.6	47.2
Queue Delay	0.0	0.0		0.0	0.0	0.0	31.1
Total Delay	82.7	22.0		15.2	2.2	48.6	78.3
LOS	F	C		B	A	D	E
Approach Delay	63.4			10.6			78.1
Approach LOS	E			B			E
Queue Length 50th (ft)	~291	132		230	0	13	~1068
Queue Length 95th (ft)	#420	218		281	46	36	#1201
Internal Link Dist (ft)	772			1010			391
Turn Bay Length (ft)						180	
Base Capacity (vph)	708	706		2216	1261	204	2406
Starvation Cap Reductn	0	0		0	0	0	484
Spillback Cap Reductn	0	0		0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0
Reduced v/c Ratio	1.01	0.47		0.47	0.46	0.09	1.28

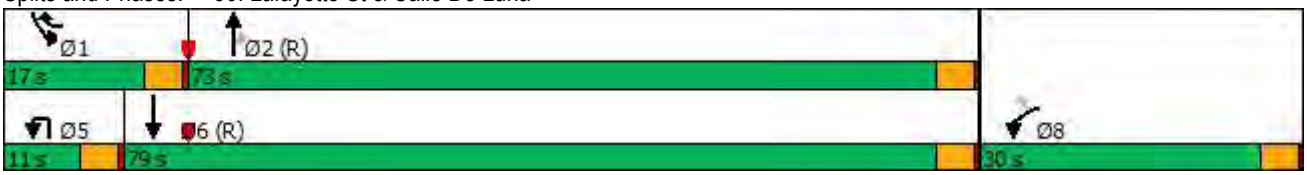
Intersection Summary

Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 120			
Control Type: Pretimed			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 53.9		Intersection LOS: D	
Intersection Capacity Utilization 85.5%		ICU Level of Service E	
Analysis Period (min) 15			

~ 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.

Splits and Phases: 90: Lafayette St & Calle De Luna



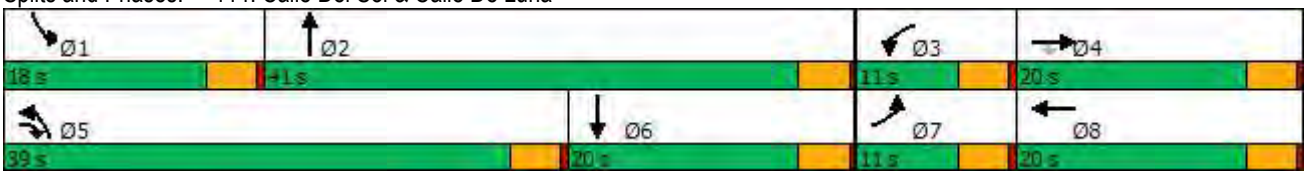
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	56	332	150	187	83	707	119	159	146	126	3
Future Volume (vph)	3	56	332	150	187	83	707	119	159	146	126	3
Ideal Flow (vphpl)	1900	1840	2100	1900	2029	1900	1879	1953	1900	1879	1842	1900
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		1	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850		0.954			0.914			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1804	1750	1770	1898	0	1750	1750	0	1750	1800	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1804	1750	1770	1898	0	1750	1750	0	1750	1800	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			327		22			93			1	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		852			497			490			246	
Travel Time (s)		19.4			11.3			11.1			5.6	
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
Shared Lane Traffic (%)												
Lane Group Flow (vph)	3	61	361	163	293	0	768	302	0	159	140	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases			4									
Detector Phase	7	4	5	3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	
Minimum Split (s)	11.0	20.0	11.0	11.0	20.0		11.0	11.0		11.0	20.0	
Total Split (s)	11.0	20.0	39.0	11.0	20.0		39.0	41.0		18.0	20.0	
Total Split (%)	12.2%	22.2%	43.3%	12.2%	22.2%		43.3%	45.6%		20.0%	22.2%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5		0.5	0.5		0.5	0.5	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-1.0	-1.0		-1.0	-1.0		-1.0	-1.0	
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None		None	Max		None	Min	
Act Effct Green (s)	6.8	9.8	47.0	9.0	17.7		36.3	38.4		12.6	14.6	
Actuated g/C Ratio	0.09	0.12	0.59	0.11	0.22		0.46	0.48		0.16	0.18	
v/c Ratio	0.02	0.27	0.31	0.82	0.67		0.96	0.34		0.58	0.42	
Control Delay	37.0	35.6	2.0	70.9	35.8		48.6	11.2		41.0	33.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		8.3	0.0		0.0	0.0	
Total Delay	37.0	35.6	2.0	70.9	35.8		56.9	11.2		41.0	33.9	
LOS	D	D	A	E	D		E	B		D	C	
Approach Delay		7.1			48.4			44.0			37.7	
Approach LOS		A			D			D			D	
Queue Length 50th (ft)	1	29	6	83	120		367	60		74	62	
Queue Length 95th (ft)	10	65	38	#221	#269		#709	138		146	126	
Internal Link Dist (ft)		772			417			410			166	
Turn Bay Length (ft)	100											
Base Capacity (vph)	179	388	1166	198	469		799	891		332	388	
Starvation Cap Reductn	0	0	0	0	0		34	0		0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	
Reduced v/c Ratio	0.02	0.16	0.31	0.82	0.62		1.00	0.34		0.48	0.36	

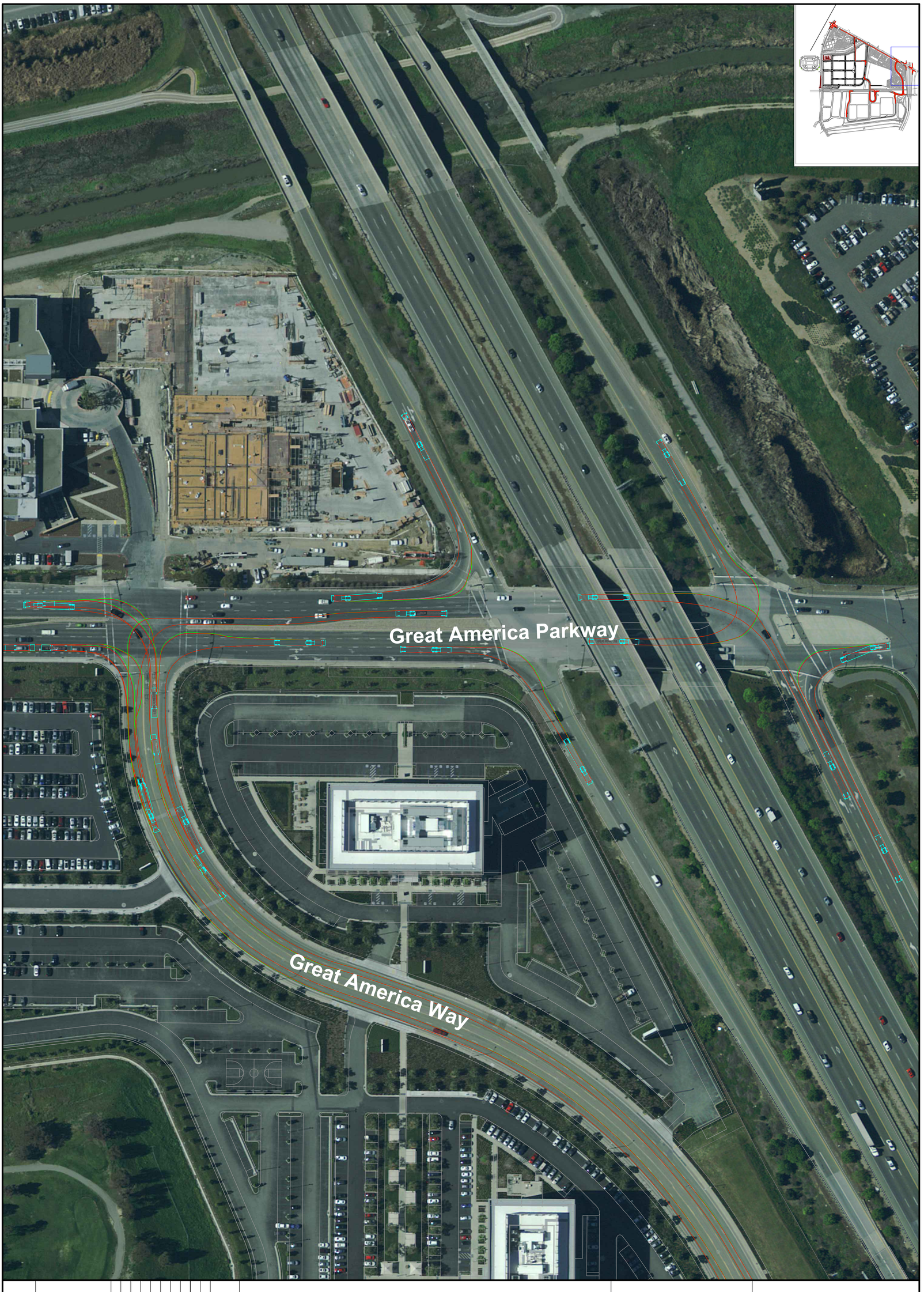
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 37.1		Intersection LOS: D	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 114: Calle Del Sol & Calle De Luna



Appendix E: Swept Path Analysis



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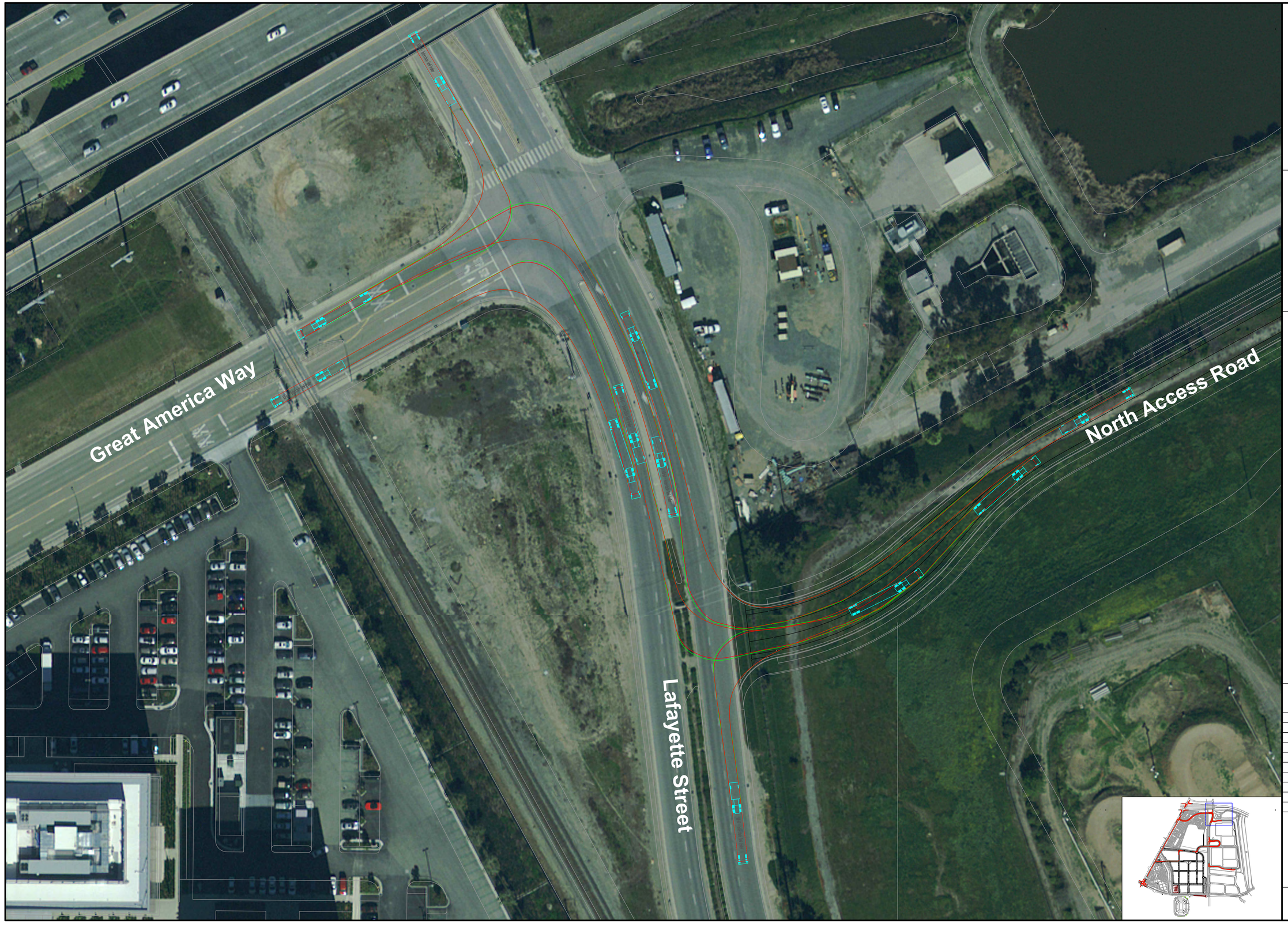

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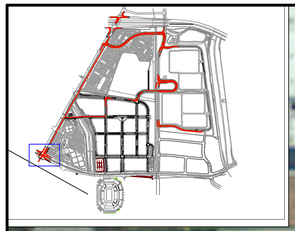

Tasman Drive

Great America Parkway

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Appendix F: Game Day (Sunday) Trip Generation

Parcel 1&2

Land Use	Size	Unit	Sunday (Daily)				Sunday (Peak Hour of Generator)			
Initial Trip Generation Estimates			**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
Warehousing (Vehicles)	1,600	1,000 sqft	0.1	80	80	160	0.04	33	31	64
Warehousing (trucks)	1,600	1,000 sqft	0	0	0	0	0	0	0	0
Manufacturing (for trucks)	1,600	1,000 sqft	0	0	0	0	0	0	0	0
Total	1,600	1,000 sqft		80	80	160		33	31	64
Total Trip Generation Parcel 1&2				**80**	**80**	**160**		**33**	**31**	**64**

Parcel 4 A

Land Use	Size	Unit	Sunday (Daily)				Sunday (Peak Hour of Generator)			
Initial Trip Generation Estimates			**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
General Office	10,638	Employees	0.22	1,170	1,170	2,340	0.03	185	134	319
Hotel	220	Rooms	5.95	655	654	1,309	0.66	67	78	145
Shopping Center	550	1,000 sqft	19.53	5,371	5,371	10,742	3.12	841	875	1,716
Apartment	1,480	Rooms	5.86	4,337	4,336	8,673	0.51	378	377	755
High Turnover Sit Down Restaurant	100	1,000 sqft	142.64	7,132	7,132	14,264	25.83	1,421	1,162	2,583
Entertainment	50	1,000 sqft	81.9	2,048	2,047	4,095	10.75	323	215	538
Supermarket	50	1,000 sqft	166.44	4,161	4,161	8,322	18.93	483	464	947
Subtotal 1				*24,874*	*24,871*	*49,745*		*3,698*	*3,305*	*7,003*
Trip Generation with Game Day Trip Reduction Applied			**Sunday (Daily)**				**Sunday (Peak Hour of Generator)**			
Reduction to account for drivers electing to avoid area due to game day traffic congestion and for shared-use with Levi's Stadium (i.e. restaurants).	50%	General Office		585	585	1,170		93	67	160
	65%	Hotel		229	229	458		23	27	51
	50%	Shopping Center		2,686	2,686	5,371		421	438	858
	50%	Apartment		2,169	2,168	4,337		189	189	378
	65%	High Turnover Sit		2,496	2,496	4,992		497	407	904

		Down Restaurant								
	65%	Entertainment		717	716	1,433		113	75	188
	100%	Supermarket		-	-	-		-	-	-
Subtotal 2				*8,881*	*8,880*	*17,761*		*1,336*	*1,202*	*2,538*
Trip Generation Reduction from VTA TIA Guidelines Applied				**Sunday (Daily)**				**Sunday (Peak Hour of Generator)**		
Trip Reduction 2A										
Mixed Use Development Project (10%) with hotel and retail components. Hotel to Retail.	10%			23	23	46		2	3	5
Retail to Hotel	10%			23	23	46		2	3	5
Subtotal 2A				*46*	*46*	*92*		*5*	*5*	*10*
Trip Reduction 2B										
Mixed Use Development Project (10%) with hotel and retail components. Hotel to Retail.	10%			217	217	434		19	19	38
Retail to Housing	10%			217	217	434		19	19	38
Subtotal 2B				*434*	*434*	*867*		*38*	*38*	*76*
Trip Reduction 2C										
Mixed Use Development Project (3%) with housing and employment components. Housing to Employment.	3%			65	65	130		6	6	11
Employment to Housing	3%			65	65	130		6	6	11
Subtotal 2C				*130*	*130*	*260*		*11*	*11*	*23*
Trip Reduction 3A										
Housing Subtotal				1,887	1,886	3,773		164	164	328
Housing Location within 2,000-foot walk of LRT or Caltrain Station (5%) (take from subtotal)	5%			94	94	189		8	8	16

Subtotal 3A				*94*	*94*	*189*		*8*	*8*	*16*
Trip Reduction 4B										
Housing Location within 2,000-foot walk of LRT or Caltrain Station (5%) (take from subtotal)	5%			29	29	59		5	3	8
Subtotal 4B				*29*	*29*	*59*		*5*	*3*	*8*
Total VTA Trip Reductions										
Subtotal 5				*733*	*733*	*1,466*		*67*	*66*	*133*
Total Trip Generation Parcel 4A				**8,148**	**8,147**	**16,295**	**-**	**1,269**	**1,136**	**2,405**

Parcel 4 B

Land Use	**Size**	**Unit**	**Sunday (Daily)**				**Sunday (Peak Hour of Generator)**			
Initial Trip Generation Estimates			**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
General Office	4,556	Employees	0.22	501	501	1002	0.03	79	58	137
Reduction to account for drivers electing to avoid area due to game day traffic congestion and for shared-use with Levi's Stadium (i.e. restaurants).	50%			251	251	501		40	29	69
Total Trip Generation Parcel 4B				**251**	**251**	**501**		**40**	**29**	**69**

Parcel 5

Land Use	**Size**	**Unit**	**Sunday (Daily)**				**Sunday (Peak Hour of Generator)**			
Initial Trip Generation Estimates			**Rate**	**In**	**Out**	**Total**	**Rate**	**In**	**Out**	**Total**
General Office	1,538	Employees	0.22	169	169	338	0.03	27	19	46
Hotel	480	Rooms	5.95	1,428	1,428	2,856	0.66	146	171	317
Shopping Center	25	1,000 sqft	19.53	244	244	488	3.12	38	40	78
Apartment	200	Rooms	5.86	586	586	1,172	0.51	51	51	102
High Turnover Sit Down Restaurant	25	1,000 sqft	142.64	1,783	1,783	3,566	25.83	291	355	646
Subtotal 1				*4,210*	*4,210*	*8,420*		*553*	*636*	*1,189*

Trip Generation with Game Day Trip Reduction Applied				**Sunday (Daily)**				**Sunday (Peak Hour of Generator)**		
Reduction to account for drivers electing to avoid area due to game day traffic congestion and for shared-use with Levi's Stadium (i.e. restaurants).	50%	General Office		85	85	169		14	10	23
	65%	Hotel		928	928	1,856		95	111	206
	50%	Shopping Center		122	122	244		19	20	39
	50%	Apartment		293	293	586		26	26	51
	65%	High Turnover Sit Down Restaurant		1,159	1,159	2,318		189	231	420
	65%	Entertainment		-	-	-		-	-	-
	100%	Supermarket		-	-	-		-	-	-
Subtotal 2				*2,587*	*2,587*	*5,173*		*342*	*397*	*739*
Trip Generation Reduction from VTA TIA Guidelines Applied				**Sunday (Daily)**				**Sunday (Peak Hour of Generator)**		
Trip Reduction 2A										
Mixed Use Development Project (10%) with hotel and retail components. Hotel to Retail.	10%			93	93	186		9	11	21
Retail to Hotel	10%			93	93	186		9	11	21
Subtotal 2A				*186*	*186*	*371*		*19*	*22*	*41*
Trip Reduction 2B										
Mixed Use Development Project (10%) with hotel and retail components. Hotel to Retail.	10%			29	29	59		3	3	5
Retail to Housing	10%			29	29	59		3	3	5
Subtotal 2B				*59*	*59*	*117*		*5*	*5*	*10*
Trip Reduction 2C										
Mixed Use Development Project (3%) with housing and employment components. Housing to Employment.	3%			9	9	18		1	1	2

Employment to Housing	3%			9	9	18		1	1	2
Subtotal 2C				*18*	*18*	*35*		*2*	*2*	*3*
Trip Reduction 3A										
Housing Subtotal				255	255	510		22	22	44
Housing Location within 2,000-foot walk of LRT or Caltrain Station (5%) (take from subtotal)	5%			13	13	25		1	1	2
Subtotal 3A				*13*	*13*	*25*		*1*	*1*	*2*
Trip Reduction 4B										
Housing Location within 2,000-foot walk of LRT or Caltrain Station (5%) (take from subtotal)	5%			4	4	8		1	0	1
Subtotal 4B				*4*	*4*	*8*		*1*	*0*	*1*
Total VTA Trip Reductions										
Subtotal 5				*279*	*279*	*558*		*27*	*30*	*58*
Total Trip Generation Parcel 5				**2,308**	**2,308**	**4,616**	**-**	**315**	**366**	**681**

Total Trip Generation All Parcels				**10,786**	**10,785**	**21,572**	**-**	**1,656**	**1,563**	**3,219**

Appendix G: Traffic volume reassignment differences Without Lick Mill Connection

Without Lick Mill No Project Traffic Reassignment based on CSC Model Difference Plots AM Peak

(Numbers represent vehicles for each turning movement that has been adjusted)

	SBR	SBT	SBL									SBR	SBT				
													-50				
EBL			-100	WBR							EBL						
EBT		59		WBT	Total check	0			Total EB check	0			85				
EBR			-300	WBL							EBR						
		30										-400	-31				
	NBL	NBT	NBR									NBL	NBT				
	SBR	SBT	SBL									total SB check	0				
	-100	-200										total NB check	0				
EBL	-70			WBR													
EBT		60		WBT									SBT	SBL			
EBR	15		-15	WBL									-50				
		100												-811	WBR		
	NBL	NBT	NBR										86		WBT		
															WBL		
													380	90			
	SBR	SBT	SBL										NBT	NBR			
		-80	-120														
EBL				WBR													
EBT		61		WBT								SBR	SBT	SBL			
EBR				WBL									-50				
		100													WBR		
	NBL	NBT	NBR										87		WBT		
															WBL		
													510				
	SBR	SBT	SBL									NBL	NBT	NBR			
		-80															
EBL				WBR								SBR	SBT	SBL			
EBT		62		WBT									-25	-25			
EBR				WBL										-120	WBR		
		100											88		WBT		
	NBL	NBT	NBR											-25	WBL		
													640	-20			
												NBL	NBT	NBR			

additional intersections (omitted from this sketch)

												SBR	SBT	SBL			
													-50	-100			
														320	WBR		
													90		WBT		
															WBL		
													-50				
												NBL	NBT	NBR			

	SBR	SBT	SBL									SBR	SBT	SBL			
		80															
EBL				WBR							EBL	50			WBR		
EBT		8	-100	WBT							EBT	-49	11	-100	WBT		
EBR				WBL							EBR				WBL		
	NBL	NBT	NBR									NBL	NBT	NBR			

additional intersections (omitted from this sketch)

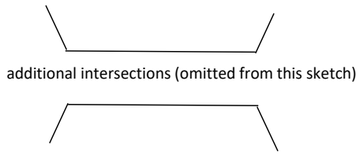
												SBR	SBT	SBL			
												-200					
											EBL				WBR		
											EBT	-49	13	50	WBT		
												NBL	NBT	NBR			

												SBR	SBT	SBL			
														50			
											EBL	-49		-148	WBR		
											EBT		14		WBT		
											EBR			120	WBL		
												50	-202	70			
												NBL	NBT	NBR			

Without Lick Mill No Project Traffic Reassignment based on CSC Model Difference Plots PM Peak

(Numbers represent vehicles for each turning movement that has been adjusted)

	SBR	SBT	SBL									SBR	SBT				
		50	-90										-90				
EBL			100	WBR							EBL	50					
EBT		59		WBT	Total check	0			Total EB check	0			85				
EBR				WBL							EBR	-390					
		50	-250									100	-300				
	NBL	NBT	NBR									NBL	NBT				
	SBR	SBT	SBL									total SB check	0				
		50										total NB check	0				
EBL	-50			WBR													
EBT		60		WBT									SBT	SBL			
EBR				WBL									350	-830			
		-150												-50	WBR		
	NBL	NBT	NBR										86		WBT		
															WBL		
													-150				
	SBR	SBT	SBL										NBT	NBR			
		50															
EBL			-50	WBR													
EBT		61		WBT								SBR	SBT	SBL			
EBR				WBL									500	-150			
		-100													WBR		
	NBL	NBT	NBR										87		WBT		
															WBL		
													-150				
	SBR	SBT	SBL									NBL	NBT	NBR			
		50															
EBL				WBR								SBR	SBT	SBL			
EBT		62		WBT									720	-220			
EBR				WBL										-25	WBR		
		-100	-50										88		WBT		
														-20	WBL		
													-125	-25			
												NBL	NBT	NBR			



												SBR	SBT	SBL			
													350	350			
															WBR		
													89		WBT		
														-100	WBL		
													-150	-100			
												NBL	NBT	NBR			
	SBR	SBT	SBL														
		50	50														
EBL				WBR													
EBT		8		WBT													
EBR				WBL													
		-100	-50														
	NBL	NBT	NBR														

additional intersections (omitted from this sketch)

												SBR	SBT	SBL			
													50	200			
														-250	WBR		
													90		WBT		
															WBL		
														60			
												NBL	NBT	NBR			
	SBR	SBT	SBL														
		50	50														
EBL				WBR													
EBT		8		WBT													
EBR				WBL													
		-100	-50														
	NBL	NBT	NBR														

													SBR	SBT	SBL		
														-90			
												EBL	-50		-225	WBR	
												EBT		13		WBT	
													SBR	SBT	SBL		
														-74	-44	-49	
												EBL					WBR
												EBT		14			WBT
												EBR				50	WBL
														-150		250	
														NBL	NBT	NBR	

Appendix H: Trip Generation Calculation Sheets

Trip Generation Calculation - Rates

NE Parcel - ITE 150

ITE Code	ITE Land Use	Units		AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total	Daily
150	Warehousing		Trip Rates and Directional	52%	48%	0.02	52%	48%	0.03	0.6
	1,600,000	Square Feet	**Truck Trips**	**15**	**15**	**30**	**25**	**25**	**50**	**960**

NE Parcel - ITE 140

140	**Manufacturing**		Trip Rates and Directional	76%	24%	0.68	31%	69%	0.74	4.75
	1,600,000	Square Feet	**Vehicle Trips**	**830**	**260**	**1090**	**365**	**820**	**1185**	**7600**
140	**Manufacturing**		Trip Rates and Directional	56%	44%	0.03	41%	59%	0.03	0.45
	1,600,000	Square Feet	**Truck Trips**	**30**	**20**	**50**	**20**	**30**	**50**	**720**

NE Parcel - Total Trips (ITE 140/150 blended)

Total Trips (Total Vehicles ITE140 - Trucks ITE 140 + Trucks ITE 150)			**815**	**255**	**1070**	**370**	**815**	**1185**	**7840**

Parcel 4

ITE Code	ITE Land Use	Units		AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total	Daily	
	General Office		Trip Rates and Directional	89%	11%	0.31	20%	80%	0.3	2.95	
	1,230,000	Square Feet	**Vehicle Trips**	**1255**	**155**	**1410**	**275**	**1090**	**1365**	**13440**	
	General Office		Trip Rates and Directional	89%	11%	0.31	20%	80%	0.3	2.95	
	2,872,181	Square Feet	**Vehicle Trips**	**2935**	**365**	**3300**	**640**	**2550**	**3190**	**31380**	
850	**Supermarket (Anchors)**		Trip Rates and Directional	62%	38%	3.40	51%	49%	9.3	94.8	
	50,000	Square Feet	**Vehicle Trips**	**105**	**65**	**170**	**235**	**230**	**465**	**4740**	
			Mixed-Use Reduction	-35	-20	-55	-90	-80	-170	-1625	
			Sub-total	70	45	115	145	150	295	3115	
	Restaurant (F&B)		Trip Rates and Directional	56%	44%	7.29	59%	41%	10.69	170.04	Note: Directional is based on DAP2
	100,000	Square Feet	**Vehicle Trips**	**410**	**320**	**730**	**630**	**440**	**1070**	**17005**	
			Mixed-Use Reduction	-130	-105	-235	-235	-160	-395	-5865	
			Sub-total	280	215	495	395	280	675	11140	
445	**Entertainment**		Trip Rates and Directional	0%	0%	0.00	40%	60%	4.91	27.27	Note: ITE 9th edition does not include daily rate; hence
	50,000	Square Feet	**Vehicle Trips**	**0**	**0**	**0**	**100**	**145**	**245**	**1365**	rate is based on ratio of PM and Daily (11th Ed)
			Mixed-Use Reduction	0	0	0	-40	-45	-85	-480	
			Sub-total	0	0	0	60	100	160	885	
820	**Shopping Center**		Trip Rates and Directional	62%	38%	0.80	48%	52%	3.4	37.4	
	550,000	Square Feet	**Vehicle Trips**	**275**	**165**	**440**	**900**	**975**	**1875**	**20565**	
			Mixed-Use Reduction	-90	-50	-140	-340	-355	-695	-7055	
			Sub-total	185	115	300	560	620	1180	13510	
220	**Apartment**		Trip Rates and Directional	20%	80%	0.49	65%	35%	0.56	6.14	
	1,480	Units	**Vehicle Trips**	**145**	**585**	**730**	**540**	**290**	**830**	**9090**	
			Mixed-Use Reduction	-25	-95	-120	-175	-55	-230	-2025	
			Sub-total	120	490	610	365	235	600	7065	
310	**Hotel**		Trip Rates and Directional	59%	41%	0.53	50%	50%	0.60	8.17	
	220	Units	**Vehicle Trips**	**70**	**45**	**115**	**65**	**65**	**130**	**1795**	
			Mixed-Use Reduction	-20	-15	-35	-25	-25	-50	-620	
			Sub-total	50	30	80	40	40	80	1175	
Total Trips	**Transit Redution**	**5%**	**Parcel 4 (transit red)**	**3458**	**1197**	**4655**	**2095**	**3776**	**5871**	**64857**	
			Parcel 4 (no transit red)	**1255**	**155**	**1410**	**275**	**1090**	**1365**	**13440**	
			Phase 4 Total	**4713**	**1352**	**6065**	**2370**	**4866**	**7236**	**78297**	

Parcel 5

ITE Code	ITE Land Use	Units		AM Peak In	AM Peak Out	AM Peak Total	PM Peak In	PM Peak Out	PM Peak Total	Daily	
	General Office		Trip Rates and Directional	89%	11%	0.31	20%	80%	0.3	2.95	
	415,219	Square Feet	**Vehicle Trips**	**425**	**50**	**475**	**90**	**370**	**460**	**4535**	
	Restaurant (F&B)		Trip Rates and Directional	56%	44%	7.29	59%	41%	10.69	170.04	Note: Directional is based on DAP2
	25,000	Square Feet	**Vehicle Trips**	**100**	**80**	**180**	**155**	**110**	**265**	**4250**	
			Mixed-Use Reduction	-30	-30	-60	-55	-45	-100	-1465	
			Sub-total	70	50	120	100	65	165	2785	
820	**Shopping Center**		Trip Rates and Directional	62%	38%	2.60	48%	52%	9.40	110.40	
	25,000	Square Feet	**Vehicle Trips**	**40**	**25**	**65**	**115**	**120**	**235**	**2760**	
			Mixed-Use Reduction	-15	-5	-20	-45	-40	-85	-945	
			Sub-total	25	20	45	70	80	150	1815	
220	**Apartment**		Trip Rates and Directional	20%	80%	0.50	65%	35%	0.65	6.7	
	200	Units	**Vehicle Trips**	**20**	**80**	**100**	**85**	**45**	**130**	**1335**	
			Mixed-Use Reduction	-5	-10	-15	-25	-25	-50	-295	
			Sub-total	15	70	85	60	20	80	1040	
310	**Hotel**		Trip Rates and Directional	59%	41%	0.53	50%	50%	0.60	8.17	
	480	Units	**Vehicle Trips**	**150**	**105**	**255**	**145**	**145**	**290**	**3920**	
			Mixed-Use Reduction	-50	-35	-85	-55	-50	-105	-1360	
			Sub-total	100	70	170	90	95	185	2560	
Total Trips	**Transit Redution**	**5%**	**Parcel 5 (transit red)**	**603**	**247**	**850**	**390**	**599**	**988**	**12098**	

Directional distribution based on Table 2 in DAP2-Traffic Analysis 05-20-2020 summarized below:

	AM in	AM out	AM tot	PM in	PM out	PM tot
Restaurant (F&B)	730	580	1310	1120	790	1910
	56%	44%		59%	41%	

Internal Reduction (DAP2-Traffic Analysis 05-20-2020 summarized below); Residential based on blended MDX /ITE Approach

	AM in	AM out	AM tot	PM in	PM out	PM tot	Average (for daily) in	Average (for daily) out	Average (for daily) tot
Retail	230	150	380	760	820	1580			
	75	45	120	285	300	585			
	33%	30%	32%	38%	37%	37%	35%	33%	34%
Restaurants	730	580	1310	1120	790	1910			
	235	185	420	415	290	705			
	32%	32%	32%	37%	37%	37%	35%	34%	34%
Hotel	220	150	370	210	210	420			
	70	50	120	80	75	155			
	32%	33%	32%	38%	36%	37%	35%	35%	35%
Residential (MXD / ITE									
	16%	17%	17%	32%	24%	28%	24%	21%	22%
Entertainment	0	0	0	40	60	100			
	0	0	0	15	20	35			
				38%	33%	35%	38%	33%	35%

Trip Generation Calculation - Data Sources, Assumptions and Trip Generation Rates

Data Sources, Assumptions and Trip Generation Rates - Related Santa Clara Scheme C

Analysis Period

AM Peak Hour
PM Peak Hour
Daily

Trip Generation Rates

NE Parcel Trip Generation

Land-Use Type	ITE Code	NE Parcel	ITE 11th Edition		
			AM Rate (per 1000 sqft)	PM Rate (per 1000 sqft)	Daily Rate (per 1000 sqft)
Manufacturing (used for Vehicles)	140	1,600,000 sqft	0.68	0.74	4.75
Warehouse (used for Trucks)	150	1,600,000 sqft	0.02	0.03	0.6

Citycenter Trip Generation

Land-Use Type	Methodology	Parcel 4	Parcel 5	AM Rate (per 1000 sqft)[4]	PM Rate (per 1000 sqft)[4]	Daily (per 1000 sqft)[4]
Office	Silicon Valley	4,102,181 sqft	415,219 sqft	0.31	0.3	2.95
	Average Rate[1]					
Supermarket	ITE (LUC 850)	50,000 sqft		3.4	9.3	94.8
	Fitted Curve[2]					
Shopping Center / Retail	ITE (LUC 820)	550,000 sqft	25,000 sqft	0.8 / 2.6	3.41 / 9.4	37.4 / 110.4
	Fitted Curve					
Restaurant (F&B)	Other[3]	100,000 sqft	25,000 sqft	7.29	10.69	170.04
	Average Rate					
Entertainment	ITE (LUC 445)	50,000 sqft		NA	4.91	27.27 [5]
	Average Rate					
Residential	ITE (LUC 220)	1,480 keys	200 keys	0.49 / 0.5	0.56 / 0.65	6.14 / 6.7
	Fitted Curve					
Hotel	ITE (LUC 310)	220 keys	480 keys	0.53	0.6	8.17
	Average Rate					

1 – Silicon Valley rate: AM / PM – 0.31/0.3 per employee with 270 sqft to be considered for each employee
2 – Fitted Curve for Supermarket (LUC 950) is available for PM Peak Hour and daily only
3 – Based on trip rate from DAP 2 and various restaurant types from ITE 9th Edition and ITE 10th Edition
4 – Trip rates based on fitted curve vary by area, hence two rates are provided for Parcel 4 and Parcel 5
LUC 220 AM Peak: T=0.49(X)+3.73; PM Peak: T= 0.55(X)+17.65; Daily: T = 6.06(X)+123.56
LUC 820 AM Peak: LN(T)=0.61Ln(X)+2.24; PM Peak: LN(T)=0.67Ln(X)+3.31; Daily: LN(T)=0.65Ln(X)+5.83
*LUC 850 AM Peak: 3.4; PM Peak: T= 0.74*Ln(X)+3.25; Daily: T=66.95(X)+1391.56*
5 – ITE 9th edition does not include a daily rate for LUC 445. To derive a daily rate, the peak hour rate is inflated based on the difference of daily to peak hour rates in the latest 11th edition of ITE

Internalization Reduction

Land-Use Type	Methodology	AM Internalization Reduction			PM Internalization Reduction			Daily Internalization Reduction [1]		
		In	Out	Total	In	Out	Total	In	Out	Total
Retail	EIR 2015	33%	30%	32%	38%	37%	37%	35%	33%	34%
Restaurants	EIR 2015	32%	32%	32%	37%	37%	37%	35%	34%	34%
Entertainment	EIR 2015	--	--	--	38%	33%	35%	38%	33%	35%
Residential	Blended Rate (MXD Tool , ITE)	16%	17%	17%	32%	24%	28%	25%	22%	23%
Hotel	EIR 2015	32%	33%	32%	38%	36%	37%	35%	35%	35%

1 – Daily Internalization Reduction is the average of AM and PM Internalization Reductions

Transit Reduction Applied

Land-Use Type [1]	Parcel 4	Parcel 5	Transit Reduction
Office	2,872,181 sqft [2]	415,219 sqft	5%
Supermarket	50,000 sqft		5%
Shopping Center / Retail	550,000 sqft	25,000 sqft	5%
Restaurant (F&B)	100,000 sqft	25,000 sqft	5%
Entertainment	50,000 sqft		5%
Residential	1,480 keys	200 keys	5%
Hotel	220 keys	480 keys	5%

1 – No Public Transportation reduction was applied to the NE Parcel and part of Parcel 4 was also excluded from transit reduction
2 – Part of Parcel 4 (1,230,000 sqft of office) excludes public transportation reduction

Trip Generation Calculation - Final Results

Trip Generation - Related Santa Clara Scheme C (dated 04/18/2024)

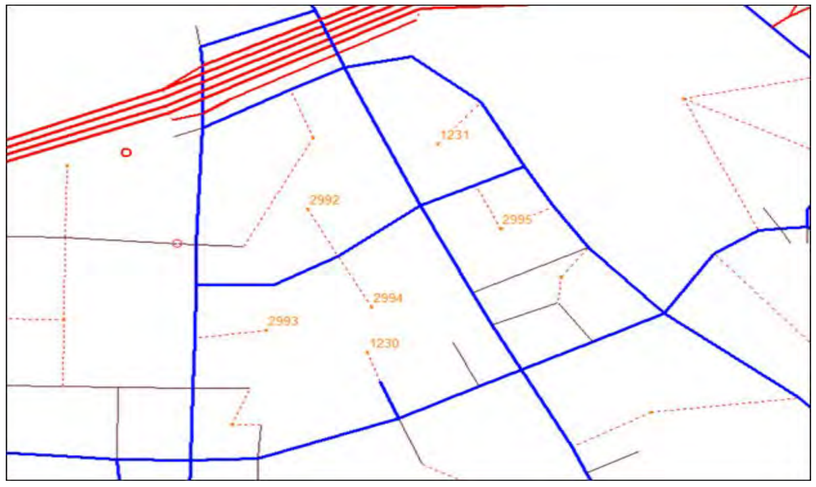
		AM			PM			Daily		
TAZ	Area	AM Inbound	AM Outbound	Total AM	PM Inbound	PM Outbound	Total PM	Daily Inbound	Daily Outbound	Total Daily
1230	Parcel 5	603	247	850	390	599	989	6,049	6,049	12,098
1231	NE Parcel	408	128	535	185	408	593	1,960	1,960	3,920
2992	Parcel 3	0	0	0	0	0	0	0	0	0
2993	Parcel 4	1,255	155	1,410	275	1,090	1,365	6,720	6,720	13,440
2994	Parcel 4	3,458	1,197	4,655	2,095	3,776	5,871	32,429	32,429	64,858
2995	NE Parcel	408	128	535	185	408	593	1,960	1,960	3,920
Total	**Total**	**6,131**	**1,854**	**7,985**	**3,130**	**6,280**	**9,410**	**49,118**	**49,118**	**98,236**

Trip Generation Calculation - Employment

Employment - Related Santa Clara Scheme C (dated 04/15/2024)

TAZ	Parcel	Households	Total Employment	Office Employment [1]	Hotel Employment [2]	Retail Employment [3]	Restaurants Employment [4]	Residential Employment [5]	Entertainment Employment [6]	Industrial Employment [7]
1230	Parcel 5	200	2,146	1,536	494	55	55	6	0	0
1231	NE Parcel	0	1,910	0	0	0	0	0	0	1,910
2992	Parcel 3	0	0	0	0	0	0	0	0	0
2993	Parcel 4	0	4,551	4,551	0	0	0	0	0	0
2994	Parcel 4	1,480	12,550	10,627	227	1,320	220	46	110	0
2995	NE Parcel	0	1,910	0	0	0	0	0	0	1,910
Total		**1,680**	**23,067**	**16,714**	**721**	**1,375**	**275**	**52**	**110**	**3,820**

1 - Office: 3.7 employees per 1,000 sqft based on 2015 EIR
2 - Hotel: 1.03 employees per room based on 2015 EIR
3 - Retail : 2.2 employees per 1,000 sqft based on 2015 EIR
4 - Restaurant : 2.2 employees per 1,000 sqft based on 2015 EIR
5 - Residential : 1 employee per 32 dwelling units based on 2015 EIR
6 -Entertainment : 2.2 employees per 1,000 sqft based on 2015 EIR
7 - Industrial based on ITE Trip Generation Manual 11th Edition. The split between TAZs 1231 and 2995 is 50/50 since the masterplan layout specifying plots and areas is not completed yet



NCHRP 684 Internal Trip Capture - AM Peak Hour

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	City Place	**Organization:**	Arup
Project Location:	Santa Clara	**Performed By:**	Elise Purguette
Scenario Description:	Scheme C - AM	**Date:**	4/5/2024
Analysis Year:	2024	**Checked By:**	
Analysis Period:	**AM Street Peak Hour**	**Date:**	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				5,185	4,615	570
Retail				675	420	255
Restaurant				910	510	400
Cinema/Entertainment				0	0	0
Residential				830	165	665
Hotel				370	220	150
All Other Land Uses[2]				0		
				7,970	5,930	2,040

Table 2-A: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	5%	0%	1.00	5%	0%
Retail	1.00	5%	0%	1.00	5%	0%
Restaurant	1.00	5%	0%	1.00	5%	0%
Cinema/Entertainment	1.00	5%	0%	1.00	5%	0%
Residential	1.00	5%	0%	1.00	5%	0%
Hotel	1.00	5%	0%	1.00	5%	0%
All Other Land Uses[2]	1.00	5%	0%	1.00	5%	0%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		134	117	0	0	0
Retail	74		33	0	3	0
Restaurant	124	34		0	8	9
Cinema/Entertainment	0	0	0		0	0
Residential	13	7	102	0		0
Hotel	113	17	14	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	7,970	5,930	2,040
Internal Capture Percentage	20%	14%	39%
External Vehicle-Trips[5]	6,048	4,871	1,177
External Transit-Trips[6]	318	257	61
External Non-Motorized Trips[6]	0	0	0

Table 6-A: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	7%	44%
Retail	46%	43%
Restaurant	52%	44%
Cinema/Entertainment	N/A	N/A
Residential	7%	18%
Hotel	4%	96%

[1]Land Use Codes (LUCs) from *Trip Generation Manual* , published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture - AM Peak Hour

Project Name:	City Place
Analysis Period:	**AM Street Peak Hour**

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	4615	4615	1.00	570	570
Retail	1.00	420	420	1.00	255	255
Restaurant	1.00	510	510	1.00	400	400
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	165	165	1.00	665	665
Hotel	1.00	220	220	1.00	150	150

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		160	359	0	6	0
Retail	74		33	0	36	0
Restaurant	124	56		0	16	12
Cinema/Entertainment	0	0	0		0	0
Residential	13	7	133	0		0
Hotel	113	21	14	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		134	117	0	0	0
Retail	185		255	0	3	0
Restaurant	646	34		0	8	9
Cinema/Entertainment	0	0	0		0	0
Residential	138	71	102	0		0
Hotel	138	17	31	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	324	4291	4615	4076	215	0
Retail	192	228	420	217	11	0
Restaurant	266	244	510	232	12	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	11	154	165	146	8	0
Hotel	9	211	220	200	11	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	251	319	570	303	16	0
Retail	110	145	255	138	7	0
Restaurant	175	225	400	214	11	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	122	543	665	516	27	0
Hotel	144	6	150	6	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture - PM Peak Hour

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	City Place	**Organization:**	Arup
Project Location:	Santa Clara	**Performed By:**	Elise Purguette
Scenario Description:	Scheme C - PM	**Date:**	4/5/2024
Analysis Year:	2023	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	Total	Entering	Exiting
Office				5,015	1,005	4,010
Retail				2,575	1,250	1,325
Restaurant				1,335	785	550
Cinema/Entertainment				245	100	145
Residential				960	625	335
Hotel				420	210	210
All Other Land Uses[2]				0		
				10,550	3,975	6,575

Table 2-P: Mode Split and Vehicle Occupancy Estimates

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ.[4]	% Transit	% Non-Motorized	Veh. Occ.[4]	% Transit	% Non-Motorized
Office	1.00	5%	0%	1.00	5%	0%
Retail	1.00	5%	0%	1.00	5%	0%
Restaurant	1.00	5%	0%	1.00	5%	0%
Cinema/Entertainment	1.00	5%	0%	1.00	5%	0%
Residential	1.00	5%	0%	1.00	5%	0%
Hotel	1.00	5%	0%	1.00	5%	0%
All Other Land Uses[2]	1.00	5%	0%	1.00	5%	0%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		1600	1600		1600	
Retail					1600	
Restaurant					1600	
Cinema/Entertainment					1600	
Residential		1600	1600			
Hotel					1600	

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		56	9	0	25	0
Retail	27		228	26	258	36
Restaurant	17	226		32	74	39
Cinema/Entertainment	3	30	24		9	2
Residential	13	70	39	0		10
Hotel	0	25	39	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	10,550	3,975	6,575
Internal Capture Percentage	25%	33%	20%
External Vehicle-Trips[5]	7,521	2,526	4,995
External Transit-Trips[6]	395	132	263
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

Land Use	Entering Trips	Exiting Trips
Office	6%	2%
Retail	33%	43%
Restaurant	43%	71%
Cinema/Entertainment	58%	47%
Residential	59%	39%
Hotel	41%	30%

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be

[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

[6]Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture - PM Peak Hour

Project Name:	City Place
Analysis Period:	**PM Street Peak Hour**

Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends

Land Use	Table 7-P (D): Entering Trips			Table 7-P (O): Exiting Trips		
	Veh. Occ.	Vehicle-Trips	Person-Trips*	Veh. Occ.	Vehicle-Trips	Person-Trips*
Office	1.00	1005	1005	1.00	4010	4010
Retail	1.00	1250	1250	1.00	1325	1325
Restaurant	1.00	785	785	1.00	550	550
Cinema/Entertainment	1.00	100	100	1.00	145	145
Residential	1.00	625	625	1.00	335	335
Hotel	1.00	210	210	1.00	210	210

Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		449	90	0	60	0
Retail	27		384	53	258	66
Restaurant	17	226		44	74	39
Cinema/Entertainment	3	30	45		9	3
Residential	13	79	39	0		10
Hotel	0	34	143	0	3	

Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		56	9	1	25	0
Retail	312		228	26	288	36
Restaurant	302	625		32	100	149
Cinema/Entertainment	60	50	24		25	2
Residential	573	70	62	0		25
Hotel	0	25	39	0	0	

Table 9-P (D): Internal and External Trips Summary (Entering Trips)

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	60	945	1005	898	47	0
Retail	407	843	1250	801	42	0
Restaurant	339	446	785	424	22	0
Cinema/Entertainment	58	42	100	40	2	0
Residential	366	259	625	246	13	0
Hotel	87	123	210	117	6	0
All Other Land Uses[3]	0	0	0	0	0	0

Table 9-P (O): Internal and External Trips Summary (Exiting Trips)

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles[1]	Transit[2]	Non-Motorized[2]
Office	90	3920	4010	3724	196	0
Retail	575	750	1325	712	38	0
Restaurant	388	162	550	154	8	0
Cinema/Entertainment	68	77	145	73	4	0
Residential	132	203	335	193	10	0
Hotel	64	146	210	139	7	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

MXD Tool Model - Description

MIXED USE TRIP GENERATION MODEL v 4.0

FEHR & PEERS

MODEL UPDATES

As is the case with all scientific and engineering methods, this MXD tool will continue to undergo enhancement and updates in the future, and the current version may become out-of-date or supersede
It is the user's responsibility to verify that the version in use is suitably up to date for his/her purpose
October 2020 Update: Peak Hour Factoring values have been updated in this version to match the values ir*Still Getting Trip Generation Right: Revalidating MXD+* (November/December 2020 PAS Memo). All other aspects are unchanged

USAGE STATEMENT AND DISCLAIMER

The MXD spreadsheet tool is a functional implementation of the research and mathematical equaitons for the MXD method described in the accompanying documentation [1]. Fehr & Peers offers the spreadsheet
as a public service, for use by professional transportation planners and traffic engineers, experienced in the use of the Institute of Transportation Engine*Trip Generation* report and *Trip Generation Handbook*.
We make no representation or warranty concerning the tool's use by inexperienced individuals, nor concerning the tool's functionality or accuracy beyond the scope of the underlying research. We also t
no responsibility for the conclusions or opinions inexperienced users may draw from the results produce

While the research underlying the spreadsheet has been reviewed for general usefulness, it is the responsibility of the user to assess whether the research is relevant to and credible for his/her intended applica
It is also the user's responsibility to exercise professional judgment on appropriateness to the specific details of their subject case. In cases where this is in doubt, the user is advised to either apply alternate methods or to validate the MXD me
with respect to local data and to test the method's sensitivities to the particular combination of factors under stud

In cases that vary significantly from those used to develop and validate the method (as described in the accompanying documentation) [2], the user is advised to consult with an expert in the transportation planning/engineering f
as to the method's relevance and performance

Although the method has been validated with respect to its ability to predict daily traffic generation for a variety of mixed-use development projects, the following qualifiers ap

1. The accuracies of the model's predictions of travel by transit, walking, and bicycle modes have not been mathematically validated, and the model does not predict the amount of automobile travel occurring entirely within the MXD s

2. The accuracy of prediction of proportions of daily travel occurring during specific times of day has not been fully validate

3. The method was developed primarily to address the effects of mixed-use development and, though it does account for some effects of transit availability and regional accessibility, special care should be used when applying the me
to transit-oriented developments (particularly adjacent to premium bus or rail service) and to development within the regional core (downtow

4. The method does not account for the effects of changing the spatial separation among uses within the development site, nor with changing the mix of specific types of retail and services uses such as entertainment, restaurant, and h

5. The spreadsheet has not been tested for all possible project descriptions, and the user assumes responsibility for checking and judging the reasonableness of the spreadsheet results for the specific case under study both again
results expected based on the documented equations and against the professional judgment of an expert in the transportation planning or engineer

To ensure fully-informed use of the results produced by this method, the user is advised to present them alongside the results produced by the conventional methods (such as those in the Institute of Transportaiton Engine*Trip Generation* report
and *Trip Generation* Handbook) and to explain the professional judgment that leads to a conclusion that the MXD results as reasonable. Ideally, traffic counts at sites comparable to the proposed project should be perfor

As is the case with all scientific and engineering methods, MXD will continue to undergo enhancement and updates in the future, and the current version may become out-of-date or superseded. It is the user's responsibility to verify
the version in use is suitably up to date for his/her purposes**For updates to the MXD spreadsheet, including versions that account for transit and peak hour validation please visi** www.coolconnections.org

1. "Traffic Generation by Mixed-Use Developments - A Six-Region Study Using Consistent Built Environment Measures", Ewing et al*ASCE Journal of Urban Planning and Development*, September 2011.
2. Ibid.

INSTRUCTIONS

This spreadsheet allows one to input data from a project site and estimate vehicle trip reductic
by determining:

1. The percent of trips internally capturec
2. The percent of external trips which are made by walkin
3. The percent of external trips which are made by transi

All user inputs are on the "Input" tab and the results are on the "Results" ta

The spreadsheet uses regression model cofficients to calculate trip reduction percentages by trip purpose. ITE Trip Generation and NCHRP 365 factors are used to calculate "Baseline" project site trips by purp
The results are combined to produce "adjusted" external vehicle trip

Most Input cells are shaded this color of yellow. All other cells are protected and should not be change

Always check your results for reasonability and compare them to sites of similar nature with actual counts availab

Off-site variables
The spreadsheet takes some off-site variables into account. So the results may be different for different planning years, because the surrounding a
could change. Please keep this in mind if doing an analysis that involves "existing plus project" and "cumulative plus project" scenaric

AM and PM peak hour models
The AM and PM peak hour results are not based on a validated peak hour model. The site trip reduction data was only captured on a daily basis, and t
the "predicted probabilities" (internal capture, walk, and transit) are the same in the peak hours as for daily for a given trip purpo
The overall trip reduction percentages will differ in the peak hours only to the extent that the trip purpose distribution differs. The user is given the optior
use NCHRP factors to account for this or to input trip purpose splits manuall

Site-Specific Internalizatior
In some cases one may wish to manually define site specific internalization due to unique situations. These include project sites that are isolated from surrounding communit
or contain schools that mostly serve local residents. An experienced traffic engineer or planner will need to be consulted to determine the appropriate assumptions and calculatic

Project Site Size Limitations
Please be aware that the site ought to fall within the range of the data used to develop the model, name

1. The site should be between 5 and 2000 acre
2. There should be less than 5000 dwelling units and less than 3 million square feet of commercial us

If the site does not meet the above criteria, please use an alternate method, as described in the ITE Handbook write-

Employment within a 30 minute transit trip input variable
Note: the 30 minutes is door-to-door, so should include estimations for home-to-transit and transit-to-work travel time
as well as average waiting time for the transit vehicle
If local data is unavailable

1. Estimate the geographic area accessible by a 30-minute transit trip
2. Compare that geographic area to the Census' Longitudinal Employer-Household Dynamics data.
The Census LEHD program's "On the Map" allows users draw a geographic area within which the map will then
calculate employment. See http://onthemap.ces.census.gov/

MXD Tool Model - Acronyms

Acronym	Definition
ACS	American Community Survey
ASCE	American Society of Civil Engineers
DU	dwelling unit
HBO	home-based other trips
HBW	home-based work trips
HH	household
ITE	Institute of Transportation Engineers
ksf	thousand square feet
MXD	mixed use development
MXD tool	EPA's Mixed-Use Development Trip Generation Tool
NCHRP	National Cooperative Highway Research Program
NHB	non-home-based trips
ROW	right-of-way
TOD	transit-oriented development
VMT	vehicle-miles traveled

MXD Tool Model - Inputs

MIXED USE TRIP GENERATION MODEL V4 - INPUT

FEHR & PEERS

All shaded cells are inputs
Project / Scenario Specific Inputs
Default National Factors - Can be changed for project based on site specific data, or regional values from census data, travel demand model, etc...

Section 1 - General Site Information

Site Name: Cityplace

Geographic

		Notes / Instructions
Developed Area (in acres)	94.6	Include streets, ROW, parking lots, pocket parks. Do not include open space, vacant lots.
Number of Intersections	23	Count intersections either within or on the perimeter of the MXD. Do not count most unsignalized driveways or alleys, but DO count major entrances to shopping areas or residential developments.
Is Transit (bus or rail) present within the site or across the street?	Yes	Note: This is only used as a way to zero out the probability of external trips if no transit is present.

Land Use - Surrounding Area

Is the site in a Central Business District or TOD?	Yes	Answering "Yes" will reduce the HBO and NHB purpose splits for retail use to those found in smaller stores. The nature of the stores (large vs. small) should be the primary factor in the selection here.
Employment within one mile of the MXD	42,970	Do not include employment within the MXD itself
Employment within a 30 minute Transit Trip (Door-to-door)	100,000	Include employment within the MXD itself This can be a difficult number to get - some suggestions are in the instructions tab in "Instructions."

Site Demographics

Enter Population Directly?	Yes	If "No", will apply average HH size factors (in section 2) to dwelling units below
Population	4032	Enter Population Here. You still need to enter dwelling units below.
Average Vehicles Owned per Dwelling Unit	1.60	The U.S. Census American Community Survey is likely a good source. Go to the link at right, and search "Community Facts" for your community. The vehicles per household data is within the housing statistics of the ACS. http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml

Section 2 - Variable Modeling Parameters

Conversion Factors

		Source:	What does this input affect?
Average Household Size			
Single Family	3.2	NA	Directly affects trip internalization and mode splits. Also used to compute site population if population isn't entered directly.
Multi-Family	2.4	2015 EIR	
High Rise Condo	2.4	2015 EIR	
Jobs per ksf			
Retail	2.2	2015 EIR	Used to compute site employment for any land uses which are entered in ksf rather than jobs. For retail, if land uses are entered in jobs, it's used to convert back to ksf for trip generation calculations.
Office	3.7	2015 EIR	
Light Industrial	1.0	NA	
Manufacturing	0.5	NA	
Warehousing	2.0	NA	
Misc. Uses	2.0	NA	

Jobs from ITE rates per other unit

		Source	
Jobs per Hotel Room	1.03	2015 EIR	Used to compute site employment for these land uses which are typically expressed in other units
Jobs per Movie Screen	14.30	2015 EIR	
Grade School Jobs per student	0.10	NA	
High School / Middle School Jobs per Student	0.10	NA	
College Jobs per student	0.25	NA	

Trip Purpose Splits by Land Use Type
This will affect the final results significantly. Keep "Use NCHRP" on "Yes" unless you have reliable splits which have been QA/QCd

For each land use type, choose whether to use NCHRP 365 splits as outlined on the Mode Parameters tab.
If "Yes" is chosen, the percentages will not affect the results. If "No," then enter the splits.

NOTE: For residences, the NHB Attractions are automatically calculated as the remainder to ensure the total is 100%
NOTE: For all other purposes, the NHB attractions are automatically set equal to the NHB productions, and the HBO attractions are automatically calculated as the remainder to ensure the total is 100%
NOTE: There is no NCHRP split defined for schools, so the split has to be entered below.

		Productions			Attractions			
DAILY	**Use NCHRP?**	**HBW**	**HBO**	**NHB**	**HBW**	**HBO**	**NHB**	**Source (if not using NCHRP):**
Residences	Yes	15%	50%	10%	7%	8%	10%	
Retail	Yes	0%	0%	15%	10%	60%	15%	
Office	Yes	0%	0%	15%	35%	35%	15%	
Other non-residential (excluding schools)	Yes	0%	0%	10%	60%	20%	10%	
Schools	No	0%	0%	2.5%	35%	60%	3%	
AM PEAK HOUR								
Residences	Yes	15%	50%	10%	7%	8%	10%	
Retail	Yes	0%	0%	15%	10%	60%	15%	
Office	Yes	0%	0%	15%	35%	35%	15%	
Other non-residential (excluding schools)	Yes	0%	0%	10%	60%	20%	10%	
Schools	No	0%	0%	2.5%	35%	60%	3%	
PM PEAK HOUR								
Residences	Yes	15%	50%	10%	7%	8%	10%	
Retail	Yes	0%	0%	15%	10%	60%	15%	
Office	Yes	0%	0%	15%	35%	35%	15%	
Other non-residential (excluding schools)	Yes	0%	0%	10%	60%	20%	10%	
Schools	No	0%	0%	2.5%	35%	60%	3%	

NON-HOME BASED TRIPS GENERATED BY PROJECT HOUSEHOLDS

Enter the percent of these that occur ...		Source for this information:
Completely Within the Project Site	25%	
With one trip end external to the Project Site	15%	This only affects VMT calculations
Completely outside the Project Site	60%	Calculated from other two percentages

SITE-SPECIFIC INTERNALIZATION

This should only be used in unique situations such as if the project is isolated from surrounding communities or contains a school that primarily serves local residents

This section of input is for when you have specific trips you want to EXCLUDE from the MXD process. These trips will be counted as internal, and subtracted from the "baseline" trips before applying the model. The overall trip reduction percentage will still take these trips into account, and thus be a higher reduction than if you were just letting the model work on all the "baseline" trips. An experienced transportation engineer or planner should be consulted to determine the appropriate assumptions and calculations.

Section 3 - Land Use Inputs

	Quantity	Units	Trip Equation Method: Daily	AM Peak Hour	PM Peak Hour	Trips: Daily	AM Peak Hour	PM Peak Hour	ITE Daily Parameters: Code	Average Rate	Linear Multiplier	Linear Constant	Log Multiplier	Log Constant	AM PEAK HOUR TRIP RATES: Average Rate	Linear Multiplier	Linear Constant	Log Multiplier	Log Constant	PM PEAK HOUR TRIP RATES: Average Rate	Linear Multiplier	Linear Constant	Log Multiplier	Log Constant	Valid Trip Gen Calc Choice?: Jobs Per Input Unit (if Applicable)	Daily	AM Peak Hour	PM Peak Hour
Number of Dwelling Units																											
Single Family	0	DU	Log Equation	Linear Equation	Log Equation	0	0	0	210	9.57			0.92	2.71	0.75	0.7	9.74			1.01			0.9	0.51		Yes	Yes	Yes
Multi-Family	1680	DU	Linear Equation	Linear Equation	Linear Equation	10,304	827	942	220	6.65	6.08	123.56			0.51	0.49	3.73			0.62	0.55	17.65				Yes	Yes	Yes
High Rise Condo	0	DU	Linear Equation	Linear Equation	Linear Equation	0	0	0	232	4.18	3.77	223.66			0.34	0.29	28.86			0.38	0.34	15.47				Yes	Yes	Yes
Retail (note: if you use job units for retail, the spreadsheet will convert before applying trip rates, using the rate in section 2 which you can change)																											
General Retail other than those listed below	875	ksf	Log Equation	Log Equation	Log Equation	21,170	432	2,054	820	42.94			0.65	5.83	1		0.59	2.32		3.73			0.67	3.37	2.2	Yes	Yes	Yes
Supermarket	50	ksf	Average Rate	Average Rate	Average Rate	5,112	180	525	850	102.24	66.95	1391.56			3.59					10.5			0.61	3.95	2.2	Yes	Yes	Yes
Bank	0	ksf	Average Rate	Average Rate	Average Rate	0	0	0	912	148.15					12.35					25.82					2.2	Yes	Yes	Yes
Health Club	0	ksf	Average Rate	Average Rate	Average Rate	0	0	0	492	32.93					1.38					3.53			0.95	1.43	2.2	Yes	Yes	Yes
Restaurant (non-fast food)	125	ksf	Average Rate	Average Rate	Average Rate	15,894	1,440	1,394	932	127.15					11.52					11.15					2.2	Yes	Yes	Yes
Fast-Food Restaurant	0	ksf	Average Rate	Average Rate	Average Rate	0	0	0	934	496.12					49.35					33.84					2.2	Yes	Yes	Yes
Gas Station	0	ksf	Average Rate	Average Rate	Average Rate	0	0	0	945	1181.07					79.3					97.08					2.2	Yes	Yes	Yes
Auto Repair	0	ksf	Average Rate	Average Rate	Average Rate	0	0	0	942	31.6					2.94					3.38			0.94	1.33	2.2	Yes	Yes	Yes
Office																											
Non-Medical	4517	ksf	Log Equation	Log Equation	Linear Equation	25,086	3,954	5,138	710	11.01			0.77	3.65	1.55		0.8	1.55		1.49	1.12	78.61			3.7	Yes	Yes	Yes
Medical	0	jobs	Average Rate	Average Rate	Average Rate	0	0	0	720	8.91			0.67	3.78	0.53					1.06			1.06	-0.32	1.0	Yes	Yes	Yes
Industrial																											
Light Industrial	0	jobs	Average Rate	Average Rate	Average Rate	0	0	0	110	3.02	2.95	30.57			0.44	0.27	70.47			0.42	0.29	58.03			1.0	Yes	Yes	Yes
Manufacturing	0	ksf	Average Rate	Average Rate	Average Rate	0	0	0	140	3.82	3.88	-20.7			0.73	0.83	-29.52			0.73	0.78	-15.97			0.5	Yes	Yes	Yes
Warehousing / Self-Storage	0	ksf	Average Rate	Average Rate	Average Rate	0	0	0	151	2.5			1.01	0.82	0.15					0.26			1.02	1.49	2.0	Yes	Yes	Yes
Hotel (including restaurant, facilities, etc...)	700	Rooms	Average Rate	Average Rate	Average Rate	5,719	392	413	310	8.17	8.95	-373.16			0.56		1.24	-2		0.59					1.03	Yes	Yes	Yes
Motel	0	Rooms	Average Rate	Average Rate	Average Rate	0	0	0	320	5.63			0.92	2.11	0.45		0.92	-0.46		0.47			0.94	-0.51	1.03	Yes	Yes	Yes
Movie Theater	2	Screens	Average Rate	Average Rate	Average Rate	351	0	27	445	175.29					0					13.64					14.30	Yes	Yes	Yes
School																											
University	0	Students	Average Rate	Average Rate	Average Rate	0	0	0	550	2.38	2.23	440			0.21	0.21	-69.14			0.21	0.19	118.58			0.25	Yes	Yes	Yes
High School	0	Students	Average Rate	Average Rate	Average Rate	0	0	0	530	1.71			0.81	1.86	0.42					0.13					0.10	Yes	Yes	Yes
Middle School	0	Students	Average Rate	Average Rate	Average Rate	0	0	0	522	1.62					0.54					0.16					0.10	Yes	Yes	Yes
Elementary	0	Students	Average Rate	Average Rate	Average Rate	0	0	0	520	1.29					0.45		1.14	-1.86		0.15					0.10	Yes	Yes	Yes

	Daily	AM Peak Hour	PM Peak Hour
Trips from Land uses not covered above ==>	0	0	0
Jobs in those Land Uses	0		

	Daily	AM Peak Hour	PM Peak Hour
Total "Baseline" ITE Trips	**83,636**	**7,225**	**10,493**

Section 4 - VMT Inputs

	HBW	HBO	NHB	Source:
Average Trip Length in the Region	0	0	0	
Average Trip Length in the Traffic Analysis Zone	0	0	0	region's Metropolitan Planning Organization

MXD Tool Model - Outputs

MIXED USE TRIP GENERATION MODEL V4 - RESULTS

FEHR & PEERS

MODEL APPLICATION - ALL TRIPS

	Daily				AM Peak Hour				PM Peak Hour			
	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total
Baseline # of External Trips (ITE Model)	26682	35133	21821	83636	4592	2220	413	7225	4199	3485	2809	10493
% External Trip Reduction (predicted by MXD Model)												
Internal Capture	1.89%	3.51%	17.99%	6.77%	2.08%	6.32%	17.99%	4.29%	1.89%	3.51%	17.99%	6.74%
Walking External	2.87%	14.79%	9.75%	9.63%	3.44%	19.23%	9.75%	8.50%	2.87%	14.79%	9.75%	8.58%
Transit External	4.20%	1.88%	2.68%	2.84%	5.88%	2.07%	2.68%	4.58%	5.88%	1.88%	2.68%	3.75%
# of Trips Reduced (predicted by MXD Model)												
Internal Capture	505	1233	3926	5664	96	140	74	310	80	122	505	707
Walking External	750	5014	1744	7508	155	400	33	587	118	497	225	840
Transit External	1099	639	479	2218	264	43	9	317	242	63	62	367
MXD Model # of Vehicle Trips	**24327**	**28248**	**15672**	**68246**	**4078**	**1637**	**297**	**6011**	**3759**	**2802**	**2018**	**8578**

Results

External Vehicle Trips			
	Baseline	Adjusted	Reduction %
Daily	83,636	68,246	18%
AM Peak Hour	7,225	6,011	17%
PM Peak Hour	10,493	8,578	18%

Total Trips Reduced				
	HBW	HBO	NHB	Total
Daily	2355	6885	6149	15390
AM Peak Hour	515	583	116	1214
PM Peak Hour	440	683	792	1914

Blending:					
ITE - Internal Reduction	AM			PM	
	7%	18%		59%	39%
	0.899			0.635	
Blended Reduction for EIR Addendm	16%	17%		32%	24%

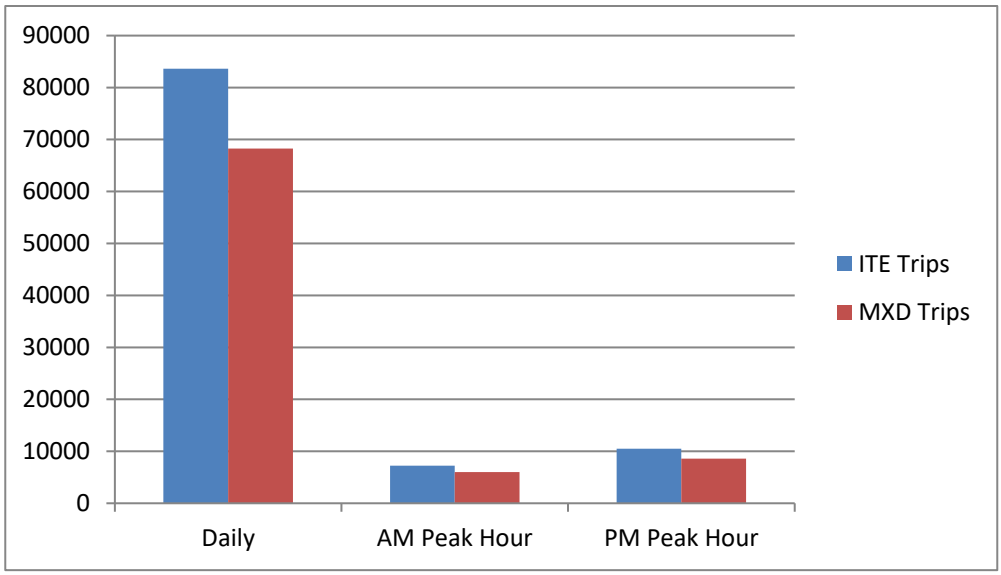
MODEL APPLICATION - TRIP ENDS ASSOCIATED WITH HOUSES IN THE PROJECT ONLY

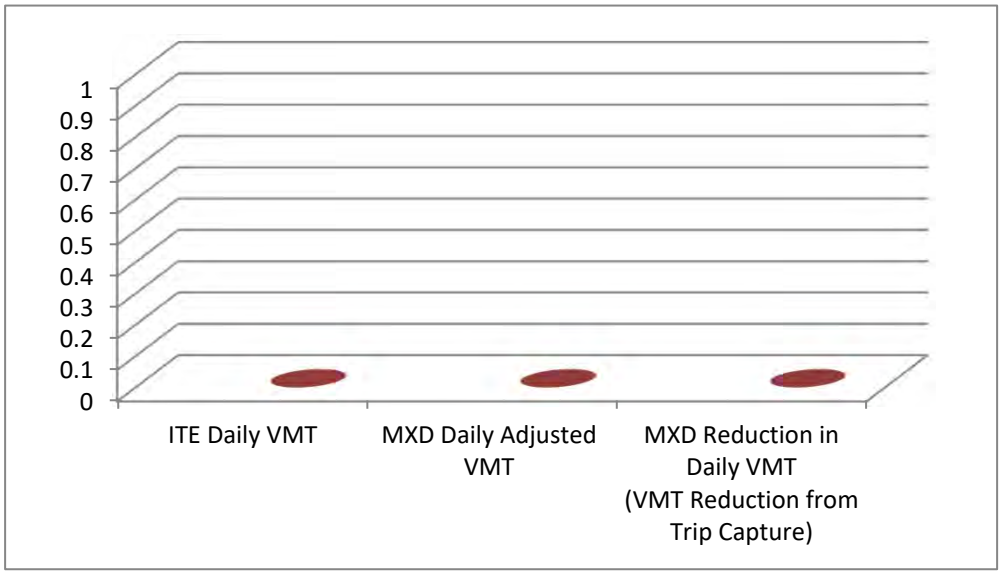
	Daily				AM Peak Hour				PM Peak Hour			
	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total	HBW	HBO	NHB	Total
Baseline # of External Trips (ITE Model)	2118	6699	1488	10304	371	427	29	827	264	528	149	942
% External Trip Reduction (predicted by MXD Model)												
Internal Capture	1.89%	3.51%	17.99%	5.27%	2.08%	6.32%	17.99%	4.82%	1.89%	3.51%	17.99%	5.34%
Walking External	2.87%	14.79%	9.75%	11.62%	3.44%	19.23%	9.75%	11.65%	2.87%	14.79%	9.75%	10.63%
Transit External	4.20%	1.88%	2.68%	2.48%	5.88%	2.07%	2.68%	3.85%	5.88%	1.88%	2.68%	3.16%
# of Trips Reduced (predicted by MXD Model)												
Internal Capture	40	235	268	543	8	27	5	40	5	19	27	50
Walking External	60	956	119	1134	13	77	2	92	7	75	12	95
Transit External	87	122	33	242	21	8	1	30	15	10	3	28
Adjusted # (MXD Model) of Vehicle Trips generated by Project Residences	**1931**	**5386**	**1068**	**8385**	**330**	**315**	**21**	**665**	**237**	**425**	**107**	**768**

Results	**External Vehicle Trips**		
	Baseline	Adjusted	Reduction %
Daily	10,304	8,385	19%
AM Peak Hour	827	665	20%
PM Peak Hour	942	768	18%

MXD Tool Model - Comparison

Comparison of MXD forecasted daily trips to ITE forecasted daily trips





Appendix C

Related Santa Clara Scheme C Air Quality/Greenhouse Gas Report

RAMBOLL

ENVIRONMENT
& HEALTH

MEMO

Date: **January 24, 2025**

To: **Tom Boshaw, Vice President, Related Urban**

From: **Michael Keinath**
Sarah Manzano
Brandon Yee

Subject: **CEQA AIR QUALITY AND GREENHOUSE GAS ANALYSIS FOR THE MODIFICATION OF THE RELATED SANTA CLARA PROJECT**

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Ramboll Americas Engineering Solutions, Inc. ("Ramboll") evaluated the air quality and greenhouse gas ("GHG") impacts of a modification to the Related Santa Clara project (the "Project") in Santa Clara, California compared to the impacts evaluated in the City Place Santa Clara Project Draft Environmental Impact Report ("EIR"), State Clearinghouse Number 2014072078. The methods used in this analysis are consistent with the recommended analyses for environmental review of projects under the California Environmental Quality Act ("CEQA") and compares the impacts of the Project as modified to the Project's EIR impact conclusions. The Project's EIR was certified by the City of Santa Clara (the "City") in 2016.

PROJECT INTRODUCTION

Related Santa Clara ("Related") is overseeing the Project buildout of a total of 9.16 million gross square feet ("gsf") of mixed-used development. The Project area is split across various land uses among Parcels 4 & 5 ("City Center parcels") and Parcels 1 & 2 ("northeast parcels"). The 2016 EIR analyzed two schemes, Scheme A and Scheme B, with different land use distributions, both with 5.13 million square feet of development in the City Center parcels and 4.03 million square feet of development in the northeast parcels. The Project that has been approved by the City, as analyzed in the 2016 EIR and its subsequent three addenda, is referred to collectively herein as the Approved Project.

Related is proposing a modification to the Project to shift some office and retail land uses in the northeast parcels to the City Center parcels, thereby increasing the square footage in the City Center parcels, and to build warehouse and/or advanced manufacturing land uses in the northeast parcels, with the adjusted the land use distribution collectively referred to herein as the modified Project, or Scheme C. Scheme C would have the same total buildout and include 7.56 million square feet of mixed-use development (e.g., office, retail, residential, and hotel) in the City Center parcels and 1.6 million square feet of warehouse and/or advanced manufacturing in the northeast parcels.

Ramboll evaluated the potential change in impacts to determine if the changes in land use proposed under Scheme C and the increased density of the City Center parcels would change impacts evaluated in the 2016 EIR.

The proposed Scheme C land uses at the Project site along with the land use categories used in the California Emissions Estimator Model ("CalEEMod") are listed in **Table A**.[1]

Table A. Land Use Summary

Land Use Category from Related	Specific Land Use Category for CalEEMod	Scheme C Area (square feet)
Residential	Condo/Townhouse	1,680,000 (1,680 units)
Retail General		800,000
Supermarket	Supermarket	50,000
Retail uses	Regional Shopping Center	575,000
Restaurant	High Turnover (Sit Down) Restaurant	125,000
Entertainment	Movie Theater (No matinee) [2]	50,000
Office	General Office Building	4,517,400
Hotel	Hotel	567,000 (700 rooms)
Industrial/Manufacturing	Warehouse-No Rail/ Manufacturing[3]	1,600,000

The 1.6 million square feet land use for industrial/manufacturing could be built out for either warehouse or advanced manufacturing uses. Therefore, emissions were estimated for both buildout scenarios to bound maximum possible emissions from Scheme C. The full warehouse buildout assumes at most half of the warehouse would be refrigerated. All CalEEMod outputs can be reviewed in **Appendix A**. Additional project features incorporated into the emission calculations include the following:

- A maximum of 50% of the square footage of the northeast parcel is expected to be refrigerated warehouse. The other portion could include non-refrigerated warehouse, manufacturing, or both.
- Electricity and natural gas consumption would meet Related's Recommended Energy Use Intensity ("EUI") targets. The EUI target is the standard to which Related will design its buildings against.
- Buildings meet Leadership in Energy and Environmental Design (LEED) certification or equivalent measures.
- Incorporating renewable energy requirements and using only electric landscaping equipment, both of which are required by Mitigation Measure GHG-1.2

These project descriptions are further elaborated under the Operational Emissions Estimation Methodologies section of this report. This analysis compares impacts of Scheme C to the impact conclusions for the Approved Project. Based on the analysis from the 2016 EIR, Ramboll evaluated and compared the differences in Project impacts due to the proposed land use changes and relied on thresholds of significance from the 2016 EIR, which were based on Bay Area Air Quality Management District ("BAAQMD") thresholds.

[1] Numbered tables can be found in the attached tables, while lettered tables are embedded in the main text.

[2] The only option for movie theater in CalEEMod is Movie Theater (No matinee), which is the same land use category used in the 2016 EIR.

[3] For the warehouse land use scenario, half of the warehouse land use is assumed to be refrigerated and the other half is assumed to be unrefrigerated.

IMPACT COMPARISON

Below is a compilation of each air quality and GHG impact statement from the 2016 EIR. Each impact contains a summary of the impact in the 2016 EIR and determines if Scheme C would change the impacts of the Approved Project as evaluated in the 2016 EIR. Details on the associated technical analysis are described after this section.

Impact AQ-1: Conflict with Air Quality Plan. The Project would conflict with or obstruct implementation of the applicable air quality plan. (SU)

The 2016 EIR evaluated the Approved Project against the BAAQMD's 2010 Clean Air Plan, the applicable air quality plan available at the time. The 2016 EIR evaluated the Approved Project's consistency with the 2010 Clean Air Plan based on whether the Approved Project would result in population and/or employment growth that exceeds the estimates used to develop the 2010 Clean Air Plan. Based on this criterion, the 2016 EIR concluded that the Approved Project would contribute unplanned regional growth and would therefore conflict with the implementation of the 2010 Clean Air Plan. 2016 EIR also concluded that the Approved Project's exceedance of BAAQMD's emission thresholds of significance would also conflict with the implementation of the 2010 Clean Air Plan. Consequently, even though the Approved Project supports several land use, transportation, and energy strategies in the 2010 Clean Air Plan, the Approved Project conflicted with the implementation of the applicable air quality plan, resulting in a ***significant and unavoidable impact***.

The consistency of Scheme C with the 2010 Clean Air Plan is evaluated based on the same criterion of population and/or employment growth, discussed above. The number of dwelling units, population, and jobs created by Scheme C are similar to those in the Approved Project. Therefore, the general trend for increased population growth and housing demand would be similar. Scheme C would generate approximately 4,030 new residents, as shown in **Table 10**, which is the same as the Approved Project evaluated in the 2016 EIR. Scheme C would introduce 23,560 net new employees, as shown in Table 10. The Approved Project evaluated in the 2016 EIR would introduce 23,610 net new employees. Therefore, the increase in residents and net new employees for Scheme C would be similar to the increase in residents and net new employees for the Approved Project. Therefore, Scheme C would contribute similar regional growth to the Approved Project and would result in a similar conclusion to the comparison to the growth assumed in the 2010 Clean Air Plan. Furthermore, while criteria air pollutants and GHG emissions for Scheme C would be lower than the emissions reported for the Approved Project, Scheme C would generate operational emissions that would exceed the BAAQMD's significance thresholds for criteria air pollutants (Impact AQ-3 and GHG-1 below). Therefore, Scheme C would conflict with the 2010 Clean Air Plan, similar to the Approved Project. Therefore, Scheme C would conflict with the implementation of the 2010 Clean Air Plan and result in a **significant and unavoidable impact**. This impact conclusion is identical to that of the 2016 EIR. This impact is no more severe than what was disclosed for the Approved Project because the unplanned growth is similar to that of the Approved Project and criteria air pollutant emissions are lower for Scheme C compared to the Approved Project.

Since the publication of the 2016 EIR, the 2017 Clean Air Plan has been adopted by BAAQMD. The 2017 Clean Air Plan is a comprehensive plan to improve air quality, protect public health and protect the climate in the BAAQMD's jurisdiction. The 2017 Clean Air Plan, similar to the 2010 Clean Air Plan, serves as an update to the region's State ozone plan pursuant to the requirements of the California Health and Safety Code. The 2017 Clean Air Plan is designed to accomplish three complementary goals: attain air quality standards, protect public health in the Bay Area by reducing the population's exposure to air pollutants, and protect the climate by meeting the State's GHG reduction targets in 2030 and 2050. The 2017 Clean Air Plan defines an integrated, multi-pollutant control strategy that encompasses 85 individual control measures across the following sectors: Stationary (Industrial)

Sources, Transportation, Energy, Buildings, Agriculture, Natural Working Lands, Waste Management, Water, and Super-GHG Pollutants.

The following analysis addresses the consistency of Scheme C with the 2017 Clean Air Plan. It should be noted that these conclusions only provide additional information and are not used to compare the severity of the impact with what was analyzed for the Approved Project. For this analysis, a project is considered to be consistent with the 2017 Clean Air Plan when it 1) supports the goals of the 2017 Clean Air Plan, 2) includes applicable control measures from the 2017 Clean Air Plan, and 3) would not disrupt or hinder implementation of any control measures included in the 2017 Clean Air Plan. As discussed below for individual sectors described in the 2017 Clean Air Plan, Scheme C will include applicable control measures from the 2017 Clean Air Plan.

Stationary sources. Although Scheme C does not propose large stationary sources such as oil refineries and cement plants, Scheme C would introduce new emergency generators to the site, similar to the Approved Project. The proposed emergency generators are subject to BAAQMD's Rule 2-5 for New Source Review of Toxic Air Contaminants, which is addressed in SS21 in 2017 Clean Air Plan. In addition, the proposed emergency generators would all be equipped with Best Available Control Technology (BACT), in order to minimize health risks to impacted individuals, consistent with SS32 in 2017 Clean Air Plan. Any fugitive dust emissions generated by construction activities of Scheme C would also be reduced by best management practices for fugitive dust as required in Mitigation Measure AQ-2.3, which would support the control measure SS38 in the 2017 Clean Air Plan to limit fugitive dust emissions.

Transportation. As with the Approved Project, Scheme C would create a dense mixture of uses that supports alternative modes of travel (bicycles, pedestrians, transit) in proximity to transit (Amtrak, ACE rail, VTA light rail). Scheme C is consistent with the overarching goal of the control measures for the Transportation sector. Through the Transportation Demand Management Plan (TDM) required under Mitigation Measure TRA-1.1, the control measures that would be incorporated may include, but are not limited to, the following 2017 Clean Air Plan control measures: Clean Air Teleworking Initiative (TR1), Trip Reduction Programs (TR2), Ridesharing and Last-Mile Connection (TR8), Bicycle and Pedestrian Access and Facilities (TR9), Value Pricing (TR11), Cars and Light Trucks (TR14), and Medium and Heavy Duty Trucks (TR19).

Energy. Scheme C would source at least 50% of its energy use from renewable energy, consistent with Mitigation Measure GHG-1.2, and would therefore help to decarbonize electricity production (EN1) and decrease electricity demand (EN2). Scheme C would also reduce energy consumption in office space with the EUI targets included in Scheme C through building design. EUI targets are Related's energy consumption targets per gross square footage of a building, which combine electricity and natural gas use.

Buildings. The proposed buildings under Scheme C will adhere to the Title 24 requirements applicable at the time of issuance of the building permits, satisfying buildings control measures that would reduce Project-related area emissions, relative to traditional commercial, office, and residential uses. In addition, Proposed buildings under Scheme C will also pursue LEED certification or equivalent measures. Scheme C will incorporate the following building control measures, as feasible: Green Buildings (BL1), Decarbonize Buildings (BL2), and Urban Heat Island Mitigation (BL4).

Waste Management. Similar to Scheme B, Scheme C will achieve a 50% reduction in solid waste generation compared to typical use. Mitigation Measure GHG-1.2 requires all retail restaurants to participate 100 percent in any extant City food waste programs and any that may be developed in the future. Future projects in the City are also subject to Senate Bill 1383 that requires the diversion of

75% organics by 2025. Therefore, Scheme C is consistent with Green Waste Diversion (WA3) and Recycling and Waste Reduction (WA4).

Water. Similar to Scheme B, Scheme C will reduce indoor water use by 10% and outdoor water use by 20% compared to the CalEEMod default parameters. Therefore, it is consistent with the control measure of supporting water conservation (WR2).

The other sectors analyzed in the 2017 Clean Air Plan are not applicable to Scheme C's proposed land uses. These sectors are: Agriculture, Natural and Working Lands, and Super GHG.

Even though Scheme C would include the applicable 2017 Clean Air Plan control measures, Scheme C would generate operational emissions that would exceed the BAAQMD's significance thresholds for criteria air pollutants (Impact AQ-3 and GHG-1 below) and could conflict with the goals of the 2017 Clean Air Plan and its implementation of the control measures.

Conclusion: No change from the Approved Project as evaluated in the 2016 EIR. Even though Scheme C would support the goals of the 2017 Clean Air Plan and include applicable control measures from the 2017 Clean Air Plan, Scheme C would contribute to unplanned regional growth compared to growth assumed in the 2010 Clean Air Plan and would therefore conflict with the implementation of the 2010 Clean Air Plan. Furthermore, Scheme C would result in criteria air pollutant emissions that would exceed the applicable thresholds. Therefore, Scheme C's impact related to consistency with the 2010 Clean Air Plan remains ***significant and unavoidable***.

Impact AQ-2: Construction Criteria Air Pollutant Emissions. Construction activities at the Project site would result in the generation of regional criteria pollutant emissions during construction in excess of Bay Area Air Quality Management District thresholds. (LTS/M)

The 2016 EIR evaluated the construction emissions of the entire project based on an equipment list for each year and phase of construction and compared the emissions to thresholds, as outlined on page 3.4-23. As shown in Table 3.4-7 of the 2016 EIR, mitigated nitrogen oxides (NO_X) emissions in 2017 would still exceed the BAAQMD 54 pounds per day threshold for NO_X even after implementing Mitigation Measures AQ-2.1 through AQ-2.3. Meanwhile, reactive organic gases ("ROG"), particulate matter less 10 microns ("PM_{10}"), and particulate matter less 2.5 microns ("$PM_{2.5}$") would remain under their respective thresholds of 54, 82 and 54 pounds per day. Pursuant to AQ-2.4, the Project Developer will pay an offsite mitigation fee for NO_X emissions in excess of BAAQMD thresholds. With the implementation of Mitigation Measure AQ-2.4, NO_X emissions as analyzed in the 2016 EIR were deemed to be reduced to a ***less than significant with mitigation*** level.

Construction of Scheme C as a whole is not expected to be materially different compared to construction of the Approved Project. While the land uses within each parcel may change, Scheme C would require a construction schedule similar to the schedule analyzed in the 2016 EIR for the Approved Project, and would not result in intensified construction emissions, as described below.

Scheme C may result in denser development in the City Center parcels than was analyzed in the 2016 EIR for the Approved Project, which could be accommodated through the construction of taller buildings, but would overall maintain similar building footprints as was analyzed for the Approved Project. Furthermore, Scheme C does not anticipate any additional excavation or grading beyond the amount that was considered for the Approved Project. In addition, according to Related, Scheme C's denser development in the City Center parcels may result in less heavy-duty diesel construction activity than was analyzed in the 2016 EIR for the Approved Project. This is because the increase in density could result in taller buildings, which would require electric tower cranes in lieu of hoisting with diesel forklifts or mobile cranes that are required for low-rise or mid-rise construction, resulting in a

reduction of use of diesel-powered equipment and lower emissions. Less heavy-duty diesel construction activity would result in fewer emissions. Finally, while the increased density in City Center may also result in an increased duration of the construction timeline for City Center, construction of Scheme C as a whole is not expected to be materially different compared to construction of the Approved Project evaluated in the 2016 EIR.

Furthermore, light industrial has an overall shorter construction time than general office on a square-foot basis due to the reduction in tenant buildouts and amenities for offices, resulting in an additional overall reduction of construction time and emissions for the northeast parcels. In addition, converting land use from mixed use in the Approved Project to industrial in Scheme C results in a reduction in the required parking by 5,000 parking spots. This results in a reduction of about 1.75 million square feet of parking structures, which would further reduce construction activity and emissions.

Although activity and emissions previously assumed in the northeast parcels may move to the City Center parcels relative to the Approved Project due to the redistribution of square footage, the overall activity would remain similar or less than the Approved Project. Moving emissions from one part of the site to another would not result in a change to this impact, which evaluates overall construction emissions across the site. Localized emissions are evaluated in Impact AQ-6 for health risk analyses.

Furthermore, Scheme C proposes the similar square footage over the same site area as the Approved Project and would reduce the square footage of parking. CalEEMod default construction schedules are based on lot acreage and square footage of commercial, residential, and parking land uses. The lot acreage and square footage of commercial and residential land uses are not proposed to change between Scheme C and the Approved Project and parking land uses would be reduced. This further supports that construction activity for Scheme C would be similar or less than that for the Approved Project.

In addition, emissions analyzed today for the same activity analyzed for the Approved Project would likely be lower at this time due to fleet turnover and increased emissions standards for equipment.

Construction emissions for Scheme C are not expected to increase in comparison with the level of construction emissions analyzed in the 2016 EIR. Furthermore, Mitigation Measure AQ-2.1 through 2.4 would continue to apply and mitigate construction emissions. Mitigation Measure AQ-2.4 would require fees to be submitted to BAAQMD if NO_X emissions exceed the average daily NO_X threshold. Implementation of Mitigation Measure AQ-2.4 requires monitoring construction activity for Scheme C and submittal of actual emissions estimates to BAAQMD to determine if payment is due per the mitigation measure. With the implementation of Mitigation Measure AQ-2.1 through 2.4, construction NO_X emissions from Scheme C would continue to be reduced to a ***less than significant with mitigation*** level.

Conclusion: No change from the Approved Project as evaluated in the 2016 EIR. The impact of ROG, NO_X, and PM emissions on air quality during Project construction would be ***less than significant with mitigation*.**

Impact AQ-3: Operational Criteria Air Pollutant Emissions. The Project would result in the generation of regional criteria pollutant emissions during operation in excess of Bay Area Air Quality Management District thresholds. (SU)

The 2016 EIR evaluated the Approved Project operational criteria air pollutant ("CAP") emissions from standard CalEEMod emissions categories, as outlined on page 3.4-29 of the 2016 EIR. As shown in Table 3.4-9 of the 2016 EIR, although Project design features, LEED and operational mitigation (GHG-1.2 and TRA-1.1) would contribute to criteria pollutant reductions, ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions would still exceed BAAQMD's mass emissions thresholds of 54 pounds per day for ROG and

NO_X and 82 pounds per day for PM_{10} and $PM_{2.5}$. Purchasing offsets in this magnitude and duration would place an undue financial burden on the Approved Project that was not considered economically feasible. Consequently, the impact of ROG, NO_X, and PM emissions on air quality during Approved Project operations was deemed ***significant and unavoidable***.

Mitigated operational CAP emissions from Scheme C were calculated, as discussed in detail below. For Scheme C, the Project's design features, LEED certification, and operational mitigation efforts (GHG-1.2 and TRA-1.1) from the 2016 EIR will continue to apply. Operational CAP emissions for Scheme C and their comparison against Scheme B evaluated in the 2016 EIR are presented in **Table 1**.[4] **Table B** below is a summarized comparison of the results as shown in **Table 1**.

Table B. Summarized Comparison of Approved Project and Scheme C Mitigated CAP Emissions

	ROG	NO_X	CO	PM_{10}	$PM_{2.5}$
	(pounds per day)				
Scheme B in 2016 EIR (Table 3.4-9)					
Total	534	511	2,801	629	177
Scheme C (with Manufacturing)					
Total	476	335	2,179	534	143
Percentage Changes	**-11%**	**-34%**	**-22%**	**-15%**	**-19%**
Scheme C (with Warehouse)					
Total	498	360	2,081	533	142
Percentage Changes	**-7%**	**-30%**	**-26%**	**-15%**	**-20%**

Source: Table 1, attached

Scheme B was chosen as the comparison point due to its higher overall mass emissions compared to Scheme A. As discussed in more detail in the Operational Emissions Estimation Methodologies below, emissions for Scheme C were estimated for a full warehouse build out and a full manufacturing build out to determine maximum emissions. Actual buildout is expected to be a mix of both land uses. CAP emissions for Scheme C operations would be below the level of Scheme B emissions projected in the 2016 EIR; however, they still would be above the BAAQMD thresholds of 54 pounds per day for ROG and NOx and 82 pounds per day for PM_{10} and $PM_{2.5}$. Consequently, the impact of ROG, NO_X, and PM emissions on air quality during Scheme C operations would be ***significant and unavoidable***.

Conclusion: Reduction in operational CAP emissions from the Approved Project as evaluated in the 2016 EIR. However, they remain ***significant and unavoidable.***

Impact AQ-4: Generation of Regional Criteria Pollutant Emissions During Combined Project Construction and Operation. The Project would generate regional criteria pollutant emissions during combined Project construction and operation in excess of Bay Area Air Quality Management District thresholds. (SU)

The 2016 EIR, on page 3.4-33, indicated that implementing mitigation measures AQ-2.1 through AQ-2.4 would ensure the construction would not exceed BAAQMD thresholds on their own. However, based on the magnitude and operational emissions as shown in Table 3.4-8, the combined

[4] Numbered tables can be found in the attached tables, while lettered tables are embedded in the main text.

construction and operation emissions would result in exceedance of the BAAQMD's ROG, NO_X, PM_{10}, and $PM_{2.5}$ thresholds. This impact was deemed ***significant and unavoidable***.

Construction CAP emissions from Scheme C are not expected to deviate substantially from those evaluated in the 2016 EIR, as discussed in *Impact AQ-2*. Operational CAP emissions for Scheme C as discussed in *Impact AQ-3* are below the emissions from the 2016 EIR but continue to be above BAAQMD significance thresholds. Therefore, the combination of construction and operation would also likely be above thresholds for Scheme C and will also be deemed ***significant and unavoidable***.

Conclusion: Reduction in emissions from the 2016 EIR due to the reduction in operational CAP emissions. The impact of ROG, NO_X, and PM emissions on air quality during Scheme C construction and operations would remain ***significant and unavoidable*.**

Impact AQ-5: Exposure of Sensitive Receptors to Carbon Monoxide Hot Spots. The Project would not result in a significant exposure of sensitive receptors to potential carbon monoxide hot spots. (LTS)

As indicated on page 3.4-33 of the 2016 EIR, under each project and cumulative condition, the highest traffic levels during peak hours (14,350 vehicles per hour) would be well below the congested volumes modeled by BAAQMD—44,000 vehicles per hour for a general localized CO hotspot and 24,000 vehicles per hour for a CO hotspot at intersections with limited vertical and/or horizontal mixing. Accordingly, CO concentrations would not exceed the CAAQS according to BAAQMD's screening criteria. In the 2016 EIR, this impact was ***less than significant***.

According to the BAAQMD CEQA Guidelines, the Project would result in less-than-significant localized CO concentrations if it meets the following criteria:

1. The Project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
2. The Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
3. The Project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).[5]

According to the traffic analysis provided by the Project Developer for Scheme C (see **Appendix B**), the highest cumulative traffic volume during peak hours will be around 8,741 vehicles per hour at the intersection of Great America Parkway and Tasman Drive, which is well below the latest BAAQMD threshold, which is the same as was evaluated in the 2016 EIR.[6] Additionally, similar to the project as analyzed in the 2016 EIR, Scheme C is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans. Therefore, the updated traffic volumes for Scheme C would result in a ***less than significant*** impact related to CO.

[5] BAAQMD, 2023. CEQA Air Quality Guidelines. Available at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines. April 2023.

[6] Bay Area Air Quality Management District (BAAQMD). 2023. 2022 CEQA Guidelines Chapter 4 – Screening for Criteria Air Pollutants and Precursors. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-4-screening_final-pdf.pdf?rev=ac551d35a52d479dad475e7d4c57afa6&sc_lang=en. April.

Conclusion: No change from the Approved Project as evaluated in the 2016 EIR. Scheme C would result in a ***less than significant*** impact related to CO.

Impact AQ-6: Exposure of Sensitive Receptors to Toxic Air Contaminant Emissions during Construction. Project construction emissions would result in the exposure of sensitive receptors to localized TAC. (LTS/M)

The 2016 EIR included a construction health risk assessment of the phased construction on offsite sensitive receptors and onsite sensitive receptors, such as residents and daycare facilities. As shown in Table 3.4-10 of the 2016 EIR, both unmitigated and mitigated $PM_{2.5}$ levels were lower than the BAAQMD threshold of 0.3 microgram per meter cubed (ug/m^3). Similarly, Table 3.4-11 of the 2016 EIR showed that both unmitigated and mitigated chronic hazard index (HI) levels were also below the BAAQMD threshold of 1. However, cancer risk without mitigation exceeded the BAAQMD threshold of 10 per million, but with mitigation, it would be below this threshold. Therefore, with the implementation of mitigation measures AQ-2.1, AQ-2.2, AQ-2.3, and AQ-6.1, all health risks in the 2016 EIR were considered to have a ***less than significant impact with mitigation***.

Scheme C would increase density in the City Center portion of the Project, which may result in more construction in this area of the site compared to the northeast parcel. To evaluate if the additional construction at City Center would create a new significant impact that was not previously disclosed, a screening analysis was performed on Scheme C incorporating approved mitigation measures. As discussed in the Construction Health Risk Assessment section in this report, Ramboll conservatively scaled the construction health risk impacts in the 2016 EIR based on expected increased floor square footage in the City Center, and determined that the risks would not exceed the BAAQMD thresholds of 1 for chronic HI, 10 per million for cancer risk, and 0.3 ug/m^3 for $PM_{2.5}$. These scaled health risk impacts are detailed in **Table F** of this report but are summarized below in **Table C**.

Table C: Scaled Project-Level Chronic HI, Cancer Risks, and $PM_{2.5}$ Concentration during Construction

Phase	Scaled Mitigated Scheme C		
	Non-Cancer HI	Cancer Risk (per million)	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
On-site MEIR	0.015	2.2	0.015
Off-site MEIR	0.015	1.2	0.015
BAAQMD Threshold	1	10	0.3

Source: Table F, in report

As stated in the 2016 EIR, the phasing schedule is hypothetical and the actual sequence of construction would occur in response to market demands. The phasing schedule of Scheme C may differ than what was analysed for the Approved Project. However, for reasons discussed above, this is not expected to change impacts as analysed in the 2016 EIR. If the northeast parcels are built before occupancy of the first project residential unit, impacts from construction of the northeast parcels would not impact the onsite residents in the City Center parcels, while impacts on off-site receptors would not change as analysed in the 2016 EIR. Conversely, if the northeast parcels are built after occupancy of the on-site residential units, Mitigation Measure AQ-6.1 would be implemented and impacts would be the same as or less than the impact identified in the 2016 EIR.

This analysis was conservative because it assumes construction activity in this area would increase linearly with square footage, which is likely an overestimate, and scales all of construction emissions instead of just the City Center emissions. This scaling assessment would also take into account the mitigation analysed for the Approved Project. The construction health risks impact for Scheme C would be ***less than significant with mitigation*.**

Conclusion: No change from the Approved Project as evaluated in the EIR. Scheme C would result in a ***less than significant with mitigation*** impact related to health risks during construction.

Impact AQ-7: Exposure of Existing or New Sensitive Receptors to Operational Toxic Air Contaminant Emissions. The Project would result in the exposure of existing or new sensitive receptors to TAC emissions during operation. (LTS/M)

For the Approved Project, the health impact of mobile emissions and truck loading areas on both offsite and onsite sensitive receptors was evaluated. As shown in Table 3.4-12 and Table 3.4-13 of the 2016 EIR, chronic non-cancer hazard index, increased cancer risk, and $PM_{2.5}$ exposure to project emissions of toxic air contaminants would be below the BAAQMD project-level thresholds of 1 for chronic HI, 10 per million for cancer risk, and 0.3 ug/m^3 for $PM_{2.5}$. As indicated on page 3.4-40 in the 2016 EIR, with implementation of mitigation measure AQ-7.1, cancer risks and $PM_{2.5}$ exposure for on-site new receptors associated with emissions from existing train service, an on-site emergency generator, and an off-site stationary source would be reduced below the BAAQMD project-level thresholds. Accordingly, this impact in the 2016 EIR was deemed ***less than significant with mitigation***.

Ramboll evaluated the health risk from the truck travel, truck idling in loading areas, passenger vehicle travel, and emergency generators from Scheme C and determined that Project-level operational health risks would continue to be below BAAQMD thresholds of 1 for chronic HI, 10 per million for cancer risk, and 0.3 µg/m^3 for $PM_{2.5}$. Detailed Scheme C Project-level health risk and $PM_{2.5}$ impacts from Scheme C are shown in **Table 2** and summarized in **Table D** below. More details are found in the Operational Health Risk Assessment section below.

Table D. Summarized Scheme C Operational Project-level Health Risks

Category	Impact at Maximally Exposed Individual Receptor of Each Category	BAAQMD Threshold
Excess Lifetime Cancer Risk	9.6 in a million	10 in a million
Chronic Hazard Index (HI)	0.027	1.0
$PM_{2.5}$ Concentration	0.281 ug/m^3	0.30 ug/m^3

Source: Table 2, attached

The evaluation of the impact of off-site sources on new on-site receptors was not re-assessed because Scheme C does not introduce new residential or daycare receptors where they were not considered for the Approved Project. Therefore, this impact would continue to be ***less than significant with mitigation.***

Conclusion: The health risks and $PM_{2.5}$ concentrations from Scheme C would be below BAAQMD thresholds of significance and therefore will have a ***less than significant with mitigation impact*** with respect to health risks during operation.

Impact AQ-8: Exposure of Sensitive Receptors to Asbestos During Construction. The Project would not result in significant exposure of sensitive receptors to asbestos during demolition activities. (LTS)

For the Approved Project, the potential impact from asbestos during demolition was discussed on page 3.4-41 of the 2016 EIR. The Project would comply with BAAQMD Regulation 11, Rule 2, which would control emissions of asbestos to the atmosphere during demolition activities. Accordingly, this impact in the 2016 EIR was ***less than significant***. No mitigation was required.

Scheme C would continue to comply with BAAQMD Regulation 11, Rule 2 and does not change the evaluation in the 2016 EIR and the impact would remain ***less than significant***.

Conclusion: No change from the 2016 EIR. Scheme C would result in a ***less than significant impact*** related to asbestos during demolition activities.

Impact AQ-9: Objectionable Odors. The Project could create objectionable odors affecting a substantial number of people. (LTS/M)

The Approved Project operations were not expected to result in odor impacts that would exceed BAAQMD's odor thresholds, of receiving five complaints per year averaged over 3 years. Approved Project operations were expected to result in odors similar to the surrounding area. Construction activities were determined to be temporary in nature and dissipate as a function of distance. However, due to the disturbance of landfill materials during construction, odors may be generated that could affect adjacent residential and recreational receptors, which would be a significant impact. Mitigation measure HAZ-2.1 in the 2016 EIR was developed to mitigate odors from landfill soil disturbances and will result in a construction-period impact that is ***less than significant*** with mitigation.

With the replacement of the office spaces in the northeast parcels with light industrial land use, the potential for construction odors would be expected to be similar to the Approved Project and Mitigation Measure HAZ-2.1 would continue to apply. Therefore, construction odors would continue to be less than significant with mitigation.

Scheme C introduces light industrial land use in the form of warehouse or light manufacturing that was not considered in the 2016 EIR. Potential odor sources from warehouse operations would include diesel exhaust from deliveries and shipments. Odor impacts would be limited to circulation routes, and parking areas. Although such brief exhaust-related odors may be considered adverse, they would not be atypical of developed urban areas.

The light industrial land use will not include wastewater treatment, confined animal facilities, composting stations, refineries, and chemical plants, which are odor-generating facility identified by BAAQMD.[7] However, if other odor-generating facilities identified by BAAQMD, such as food manufacturing plants, are built on this site, BAAQMD Regulation 7 would be used to control impacts. BAAQMD Regulation 7 contains requirements on the discharge of odorous substances after the Air Pollution Control Officer (APCO) receives odor complaints from ten or more complainants within a 90-day period, alleging that a person has caused odors perceived at or beyond the property line of such person and deemed to be objectionable by the complainants in the normal course of their work, travel or residence [BAAQMD 7-102]. The operations within the Project will be subject to this regulation and

[7] Bay Area Air Quality Management District. 2022. California Environmental Quality Act Air Quality Guidelines: Chapter 5. "Project-Level Air Quality Impacts". April. Available: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-5-project-air-quality-impacts_final-pdf.pdf?rev=de582fe349e545989239cbbc0d62c37a&sc_lang=en. Accessed: July 29, 2024.

will comply with the requirements if the regulation is activated via BAAQMD 7-102, which is not expected. Therefore, the Project would be in compliance with BAAQMD Regulation 7.

Since the light industrial land use would not introduce new odors that would not be representative of developed urban areas, would not be a land use associated with odor complaints, and would comply with BAAQMD Regulation 7, the impacts of odor are unchanged from the 2016 EIR and would remain ***less than significant with mitigation***.

Conclusion: No change from the Approved Project as evaluated in the 2016 EIR. With mitigation measure HAZ-2.1 in effect, the odor impact will be ***less than significant with mitigation***.

Impact GHG-1: Greenhouse Gas Emissions. The Project would generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. (SU)

For the Approved Project, operational GHG emissions, with amortized construction emissions, were evaluated. Emissions were compared to the BAAQMD threshold at the time, which was 4.6 metric tons ("MT") of carbon dioxide equivalents (CO_2e) per service population designed to meet the AB 32 reduction target of reducing the State's GHG emissions to the 1990 level by 2020. A substantial progress threshold of 2.7 MT CO_2e in 2030 was also used, which projected BAAQMD's threshold to 2030. The 2016 EIR determined that operational GHG emissions would be ***less than significant*** with regards to the BAAQMD's threshold based on the AB 32's GHG reduction target. However, given the Approved Project's level of emissions compared to the 2030 "substantial progress" metric and the fact that there was not yet a plan for achieving a 2030 or 2050 goal, the Approved Project would result in a ***significant and unavoidable*** impact on GHG emissions.

Operational GHG emissions for Scheme C and their comparison against the Approved Project are presented in **Table 3** and summarized in **Table E**.

Table E. Summarized Comparison of Approved Project and Scheme C Mitigated GHG Emissions

Scenario	Scheme B in EIR (Table 3.4-9)	Scheme C (with Manufacturing)	Scheme C (with Warehouse)
	CO_2e Emissions (metric tons per year)		
Total (with amortized construction minus existing emissions)	94,014	90,009	89,713
Service Population	29,200	27,590	27,590
Emissions per Service Population (MT/year/population)	3.2	3.26	3.25

Source: Table 3, attached

As discussed in more detail in the Operational Emissions Estimation Methodologies below, emissions were estimated for a full warehouse build out and a full manufacturing build out to determine maximum emissions. Actual buildout is expected to be mix of both land uses. Emissions per service population were also re-calculated.

GHG emissions for Scheme C operations were determined to be lower than the Approved Project for both manufacturing and warehouse buildouts. Therefore, a build out that incorporates either or both land uses would also result in GHG emissions lower than the Approved Project. However, the GHG

emissions per service population show a slight increase compared to the Approved Project GHG emissions per capita, due to the reduction in service population with Scheme C, and remains above the substantial progress threshold. Therefore, GHG emissions will remain ***significant and unavoidable***. Because the total emissions for Scheme C are lower than the Approved Project and the emissions per service population are only 2% higher than the Approved Project, this is not a substantial increase.

Conclusion: Slight increase in emissions per capita from the Approved Project as evaluated in the 2016 EIR. Overall decrease in total mass GHG emissions. However, operational GHG emissions they remain ***significant and unavoidable***.

Impact GHG-2: Conflicts with Applicable Plans and Policies. The Project would conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. (LTS for AB 32 Scoping Plan, LTS/M for Santa Clara CAP, SU for EO S-03-05 and B-30-15)

The Approved Project was evaluated against the Scoping Plan at the time, as outlined on page 3.5-22 of the 2016 EIR. It was concluded that the Approved Project would have a ***less-than-significant impact*** on consistency with the AB 32 Scoping Plan and was considered consistent with the City's Climate Action Plan ("SCCAP") with respect to GHG emissions reduction goals. Furthermore, with mitigation measures GHG-1.2 and TRA-1.1, the Approved Project would be consistent with the SCCAP measures and would not impede achievement of the SCCAP's GHG reduction target. Thus, impacts related to SCCAP consistency in the 2016 EIR would be ***less than significant with mitigation***. Despite having a less than significant impact for these categories, emissions from the Approved Project would be inconsistent with the goals in EO S-3-05 and EO B-30-15 due to the emissions per service population exceeding the substantial progress threshold and this impact was considered ***significant and unavoidable.***

Since the 2016 EIR was certified, many new plans and policies have been adopted. However, the same plans and policies set forth for the Approved Project are used to evaluate Scheme C to be able to compare Scheme C to the Approved Project. Furthermore, since the GHG emissions are reduced for Scheme C and the GHG emissions per service population are similar to those evaluated in the 2016 EIR, the evaluation of Scheme C against plans and policies is assumed to be similar to the evaluation of the Approved Project. Therefore, this impact is also ***significant and unavoidable***.

Conclusion: No change from the Approved Project. This impact is ***significant and unavoidable***.

Impact GHG-3: Climate Change Effects on the Project (no significance determination)

The 2016 EIR discussed how climate change may affect the Project. Scheme C would not change this discussion, so this impact was not evaluated further at this time.

Details on the calculations and methods are provided below.

DATA SOURCES AND EMISSIONS METHODOLOGIES

The following sections describe the input data and methodologies used in the operational emissions analysis. Detailed information for each section can be found in the referenced tables and appendices. Construction emissions were not analyzed as construction emissions are expected to be similar or less than the Approved Project as discussed in Impact AQ-2 above.

Operational Emissions Estimation Methodologies

Operational emissions from Scheme C were estimated to capture the effects of the changes in land uses. Due to the differences in land use types, Ramboll evaluated emissions from the northeast parcels separately from the City Center parcels.

City Center Parcels

To estimate CAP and GHG operational emissions for the City Center parcels, Ramboll utilized the CalEEMod version 2022.1.1.26.[8] This comprehensive approach accounts for emissions from consumer products, architectural coatings, energy use, water, and waste, as well as mobile sources. Since CalEEMod calculates daily CAP emissions based on summer or winter seasons, the CAP emissions presented in **Table 3** are the higher value of summer and winter.

For mobile emissions from the City Center parcels, the trip rates in CalEEMod were updated to reflect project-specific trip rates, ensuring that the mobile emission calculations are accurately tailored to the specific traffic patterns and usage characteristics of these parcels. Trip rates were provided by Arup, the transportation engineer, while trip lengths were based on CalEEMod version 2022 default values.

In preparing Scheme C operation emissions, several updates were made to modify the CalEEMod default factors and assumptions to incorporate the project design features and mitigation measures discussed in the Project Introduction and project characteristics from the Approved Project that would apply to Scheme C. These include the following:

Project Design

- A 50% solid waste reduction.
- Installation of low-flow water fixtures.
- Implementing a 10% indoor and 20% outdoor water use reduction.
- Applying ROG content of 100 grams per liter ("g/L") for both interior and exterior architectural coatings.
- Applying a ROG consumer products emission factor from California Emissions Projection Analysis specific to the County of Santa Clara. The development of this emission factor is shown in **Table 4**.
- Updating 2022 CalEEMod default general office space electricity and natural gas consumption to meet Related's Recommended EUI targets. The EUI target is the standard to which Related will design its buildings against. Related's EUI target for office land use is 61.50 thousand British thermal units (kBtu) per square foot (sf) per year (yr). This was modeled in CalEEMod as electricity use of 14.42 kiloWatt hours (kWh) per square foot, which is based on 45.32 kBtu/sf/yr, and natural gas use of 16.18 kBtu/sf/yr.

Mitigation Measures

- GHG-1.2: Incorporating renewable energy requirements, consistent with the analysis for the Approved Project.
- GHG-1.2: Only utilizing electric landscaping equipment.

These modifications ensure alignment with the Approved Project as well as modernize assumptions to be consistent with recent trends on activity and emissions since the certification of the 2016 EIR.

Energy use emissions were calculated using default assumptions from CalEEMod 2022 except for the office land use, which was based on Related's energy targets. Related has made a commitment to design the office space to use lower energy, so CalEEMod defaults were updated. The default energy

[8] California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod®), Version 2022.1.1.26. Available online at: http://www.CalEEMod.com/

use is expected to result in a conservative estimate in emissions because the buildings would likely be constructed with less use of natural gas. The GHG carbon intensity ("CI") profile was calculated by CalEEMod and is forecasted to 2030 values when additional renewables would be introduced by Silicon Valley Power.

Northeast Parcels

For northeast parcels, CalEEMod was also used to calculate emissions from all non-mobile sources, including consumer products, architectural coatings, energy use, water, and waste. All updates to CalEEMod default assumptions discussed above were also implemented for the northeast parcels. CalEEMod was run for manufacturing land use and for a warehouse scenario where half of the acreage is refrigerated and the other half is unrefrigerated, both without rail land use, for the northeast parcels. A maximum of 50% of the square footage of the northeast parcel is expected to be refrigerated warehouse. The other portion could be non-refrigerated warehouse or manufacturing.

Actual buildout is expected to be a mix of warehouse and manufacturing. To bound the emissions results since the ratio of warehouse and manufacturing is not known, emissions are presented in **Table 3** for full buildout as warehouse and full buildout as manufacturing. Truck and vehicle trip generation rates for the warehouse and manufacturing scenarios were provided by Arup and were used to calculate mobile emissions from each scenario.

Emissions from on-road mobile sources were estimated outside of CalEEMod to capture the specific fleet mix associated with light industrial land use. This approach was taken to specifically address the emissions from diesel-fueled delivery trucks, assuming the truck fleet to be used will consist of only diesel-fueled heavy-heavy duty trucks ("HHDT"), light-heavy duty trucks ranging from 10,001 pounds to 14,000 pounds ("LHDT2"), medium-heavy duty trucks ("MHDT"), and that gasoline-fueled passenger vehicles would be used to transport workers. As indicated by Related, at most, half of the warehouses would be refrigerated, so half of the truck fleet would be expected to be equipped with Transportation Refrigeration Units ("TRUs") in the warehouse scenario. TRUs are separate engines that keep the freight chilled and are commonly separate engines from those that power the vehicle.

Table 5 shows the trip rates provided by Arup for both delivery trucks and passenger vehicles. The trip length for delivery trucks was provided by Related based on the average of the distances from the proposed light industrial land use to and from the surrounding major ports, which include the San Francisco International Airport, Port of Oakland, and San Jose International Airport. The proposed light industrial land use would primarily intend to receive and deliver shipments to and from those ports. To determine an average trip length for passenger vehicles, Ramboll used 2022 CalEEMod default trip type lengths, trip type percentages and trip purpose percentages for manufacturing land use.

Fuel usage calculations for diesel and gasoline are included in **Table 6** and are based on vehicle-miles travelled ("VMT") data and fleet-average fuel consumption in gallons per mile from EMFAC2021 for 2030 in Santa Clara County.

Emissions from trucks include running emissions, idling emissions, and TRU emissions. **Table 6** shows the emission factors from passenger vehicles and the main engine of the delivery trucks. The California Air Resources Board's ("CARB") web-based Emission FACtor model ("EMFAC2021") tool[9] was utilized to obtain emission factors in Santa Clara in 2030. The calendar year of 2030 was used to be consistent with the 2016 EIR. Aggregated emission factors across fleet categories were calculated based on countywide vehicle miles travelled from EMFAC2021. EMFAC2021 does not take into account

[9] California Air Resources Board (CARB). 2021. Emission FACtor (EMFAC). Available online at: https://arb.ca.gov/emfac/emissions-inventory/6aa2d35e8c9b035f92357c8d78c92f9ebb69db26

full potential emissions reductions associated with the Advanced Clean Cars II regulation or the Advanced Clean Trucks regulation.[10,11] Therefore, the effects of these regulations are not taken into account. **Table 6** also contains emissions used in the health risk assessment, which are discussed separately. **Table 7** shows the mass emissions from the delivery trucks and passenger vehicles without truck idling or TRU emissions.

TRU emissions were estimated using EMFAC2021. 2022 CARB regulations require truck-based TRUs to turn over their fleet to meet a 100% zero-emission limit by end of 2029, while trailer-based TRUs are required to meet the Tier 4 final off-road emissions limit starting with model year 2023.[12] However, since it is not known whether the trucks will be equipped with truck-based or trailer-based TRUs, a conservative approach was taken in this analysis. Although the Tier 4 limits for trailer-based TRUs began in 2023, their emission factors remain higher than those of truck-based TRUs, which are expected to reach zero emissions by 2029. Therefore, TRUs were assumed to be all trailer-based for a conservative estimate in this analysis. TRU emission factors, in grams per hour ("g/hr") of operation, were developed using EMFAC2021 and incorporate the February 2022 regulatory changes described above. Emissions are based on run time of the TRU, which includes time during truck travel and idling onsite during unloading. According to CARB, TRU engines are generally running about 62.5% of time that a TRU unit is turned on.[13] The length of time the TRUs are running during truck travel is calculated assuming 25 miles per hour travel speed and the trip rate and length provided by Arup and Related, respectively, as shown in **Table 8**. The average unloading time per refrigerated truck with the TRU operating was assumed to be five minutes per one way trip to account for the time that delivery personnel would take to plug in and out, and the truck would be plugged into the warehouse for the remaining time during unloading and loading. The five minutes of idling are derived from CARB's Airborne Toxic Control Measure ("ATCM") to limit idling of diesel-fueled commercial motor vehicles for 2008 and newer model year heavy-duty diesel engines by installing a system that automatically shuts down the engine after five minutes of idling.[14] Since truck-based TRUs will be fully electric by the end of 2029, it is expected that delivery personnel will plug their TRUs for power in a reasonable amount of time, or risk draining power from the vehicle. Although trailer TRUs have their own engines separate from the vehicle's engine, it is expected that delivery personnel will also plug in and out in a reasonable amount of time less than 5 minutes to reduce fuel usage. The ATCM also applies to diesel-fueled auxiliary power systems ("APS"), prohibiting diesel-fueled APS, and thus trailer-based TRUs, from idling greater than 5 minutes at any location when within 100 feet of a restricted area, such as residences (i.e., Tasman East apartment complexes).

Emission factors from the EMFAC web tool and the resulting emissions for the TRU emissions are presented in **Table 8**.

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[10] CARB. 2024. Advanced Clean Cars Program: About. Available online at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/about. Accessed on: July 29, 2024.

[11] CARB. 2024. Advanced Clean Trucks: About. Available online at: https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks/about. Accessed on July 29, 2024.

[12] CARB. 2022. 2022 Amendments to the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate. Available at: https://ww2.arb.ca.gov/resources/fact-sheets/2022-amendments-tru-atcm. March 17.

[13] California Air Resources Board. Appendix H: 2021 Update to Emissions Inventory for Transport Refrigeration Units. July. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/apph.pdf.

[14] California Air Resources Board, 2022. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling/about. Accessed on: July 24, 2024.

Truck idling emissions are shown in **Table 9**. It was assumed that there would be 5 minutes of idling per one-way trip, in accordance with the state law,[15] which requires no greater than 5 minutes of idling upon arrival and 5 minutes prior to departure. EMFAC2021's idling emission factors were utilized in the calculation.

Total Emissions

Emission comparisons for average daily CAP emissions and annual GHG emissions of Scheme C were compared against Scheme B from the 2016 EIR, as shown in **Tables 1 and 3**. Using the same methodology from the 2016 EIR for calculating the service population as outlined in table 3.12-6 of the 2016 EIR, the revised land use acreages and addition of the light industrial land use resulted in a calculated service population of 27,590 which is detailed in **Table 10**. To determine the service population generation rate of the industrial sector in Santa Clara County, Ramboll referred to the Industrial Land and Jobs Study report written by the Center for Community Innovation.[16]

LOCAL COMMUNITY RISK AND HAZARD IMPACTS

Toxic Air Contaminant ("TAC") Emissions

The TAC emissions associated with Scheme C operation were calculated with the following assumptions and exceptions:

1. Diesel Particulate Matter ("DPM"): DPM emissions were used to evaluate the cancer risk and non-cancer chronic HI from Scheme C operation. In this analysis, PM_{10} exhaust emissions from on-site stationary (i.e., emergency generators), on-site and off-site mobile (i.e., diesel fuel vehicles), TRU, and truck idling sources were calculated as DPM and modeled within 1,000 ft of the Project boundary (as discussed in the next section).
2. Speciated Total Organic Gases ("TOG"): Gasoline vehicles (i.e., passenger vehicles) emit TOG that are composed of speciated toxic components. TOG was speciated based on Table 14 and Table 15 of the BAAQMD 2012 Risk Modeling Guidance.[17] TOG is emitted in two forms: exhaust and evaporative. EMFAC2021 emission factors used to calculate TOG emissions for HRA are running exhaust emissions and running loss evaporative hydrocarbon emissions.
3. $PM_{2.5}$: Exhaust and fugitive $PM_{2.5}$ emissions were used to evaluate the $PM_{2.5}$ concentration due to Scheme C operation. Exhaust $PM_{2.5}$ emissions were calculated using the same method as mobile CAP $PM_{2.5}$ emissions. Silt loading factors and fugitive $PM_{2.5}$ emissions from road dust within modeling extent were calculated using CARB methodologies as shown in **Tables 11-12**.

As shown in **Table 13**, modeled TAC emissions were estimated for the emergency generators proposed for the northeast parcels based on the horsepower and tier rating provided by Related. Project emissions for the emergency generators are based on the BAAQMD rule limiting the hours of non-emergency operation for emergency standby diesel engines to a maximum of 50 hours per year of testing and maintenance, which is consistent with the maximum allowed testing time from the

[15] California Air Resources Board (CARB). 2023. Community Idling Fact Sheet. Available online at: https://ww2.arb.ca.gov/sites/default/files/2023-03/Idling_Flyer_EN.pdf

[16] Chapple, Karen, et al., Center for Community Innovation. 2017. Industrial Land and Jobs Study for the San Francisco Bay Area, pg. 136. Available online at: https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/final-reports/ca17-2792-finalreport-a11y.pdf. Accessed on July 24, 2024.

[17] BAAQMD, 2012. Recommended Methods for Screening and Modeling Local Risks and Hazards. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/risk-modeling-approach-may-2012.pdf. Accessed on: May 23, 2024.

ATCM for Stationary Compression Ignition Engines.[18] Based on the grid reliability in the area, the generators are not expected to operate for more than a total of 50 hours per year, including testing and maintenance and emergencies. Historically for the past three years from 2021 to 2023, annual outages have not exceeded 5 hours per year in the northwestern region of Silicon Valley Power ("SVP") jurisdiction.[19] In addition, generators are required to be tested monthly for thirty minutes under load which equals six hours per year plus any additional time for maintenance, which is expected to be minor. Thus, a maximum of 50 hours per year of engine operations is not likely to be exceeded. These emergency hours are also in **Table 13**. Annual emissions of PM_{10} and $PM_{2.5}$ from the proposed generators were estimated using ARB standards for diesel generator engines.[20] PM_{10} exhaust emissions from the proposed generators were conservatively calculated as DPM.

Modeled TAC emission rates from on-road tailpipe exhaust and fugitive dust corresponding with their traffic link locations are summarized in **Table 14**.

Construction Health Risk Assessment

For Impact AQ-6, the 2016 EIR included a construction health risk assessment of the phased construction on off-site sensitive receptors and on-site sensitive receptors, such as residents and daycare facilities. The 2016 EIR determined that the construction health risks were less than significant with mitigation.

Scheme C plans to construct the same total building square footage over the same physical footprint. Compared to the Approved Project, Scheme C proposes to increase the square footage in the City Center parcels and decrease the square footage in the northeast parcels. The square footage increase in the City Center parcels would result in increased density of land use and more concentrated vertical construction. While it is expected that construction emissions of the entire site under Scheme C would be similar to construction emissions of the entire site under the Approved Project, emissions may be more concentrated in City Center under Scheme C compared to the Approved Project due to the potential for increased vertical construction in City Center. Therefore, Ramboll conservatively assessed construction activity health impacts at City Center, assuming the increase of square footage would contribute to higher health risk impacts. The square footage decrease in the northeast parcels was conservatively assumed to have no effect on the construction activity and health impacts, even though the construction activity and health impacts would be expected to decrease.

Ramboll scaled the construction health risk results from the 2016 EIR based on the building square footage increase in the City Center parcels, from 5.13 million square feet to 7.56 million square feet (approximately 47% increase). This analysis was conservative because it assumes construction activity in this area would increase linearly with square footage, which is likely an overestimate as discussed above. Furthermore, the scaling approach increases the total construction health impact by 47%, when only the City Center parcels may increase construction activity. As shown in **Table F**, the scaled mitigated $PM_{2.5}$ concentration, chronic HI, and cancer risk at the on-site and off-site maximally exposed individual receptor ("MEIR") remain below the BAAQMD thresholds. This scaling analysis

[18] California Air Resources Board (CARB). 2011. Final Regulations Order: Amendments to the Airborne Toxic Control Measure for Stationary Compression Ignition Engines. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/diesel/documents/finalreg2011.pdf.

[19] Silicon Valley Power. 2023. Outage History. Available at: https://www.siliconvalleypower.com/svp-and-community/outages-and-alerts/outage-history/-FlexSetting_Type-1/-sortn-StartDate/-sortd-desc Accessed on July 24, 2024.

[20] California Air Resources Board (CARB). Non-road Diesel Engine Certification Tier Chart. Available at: https://ww2.arb.ca.gov/resources/documents/non-road-diesel-engine-certification-tier-chart

assumes the off-site MEIR is in the same place as in the 2016 EIR. Therefore, Scheme C would not change the conclusion of the 2016 EIR Impact AQ-6.

Table F: Scaled Project-Level Chronic HI, Cancer Risks, and $PM_{2.5}$ Concentration during Construction

Phase	Approved Project Mitigated (Table 3.4-11 EIR)[21,22]			Scaled Mitigated Scheme C		
	Non-Cancer HI	Cancer Risk (per million)	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)	Non-Cancer HI	Cancer Risk (per million)	Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
On-site MEIR	0.01	1.5	0.01	0.015	2.2	0.015
Off-site MEIR	0.01	0.8	0.01	0.015	1.2	0.015
BAAQMD Threshold	1	10	0.3	1	10	0.3

Operational Health Risk Assessment

Ramboll analyzed Project operational health risks from Scheme C trucks, passenger vehicles and emergency generators by estimating ambient air concentrations of DPM, speciated TOG, and $PM_{2.5}$. The traffic inputs for this analysis as prepared by Related's traffic engineer for Scheme C (see Appendix B) do not assume a Lick Mill Boulevard extension as it is not proposed for Scheme C. To present the worst case, truck trips assumed the warehouse traffic scenario while passenger vehicle trips assumed the manufacturing traffic scenario. To estimate airborne concentrations of DPM, TOG, and $PM_{2.5}$, Ramboll used AERMOD, a steady-state Gaussian plume model developed by USEPA for regulatory applications. AERMOD requires emission source locations and release parameters, receptor locations, and processed meteorological data. Modeling parameters for all the operational sources including on-road heavy-duty trucks, on-road passenger vehicles, TRU, on-site idling, and emergency generator are summarized in **Table 15**. Ramboll used five years of meteorological data (2013-2017) from the San Jose International Airport, which was the nearest dataset available to the Project.

In AERMOD, passenger vehicle dispersion factors were represented with a diurnal pattern based on the hourly VMT data in Santa Clara County from EMFAC2021 to accurately account for air dispersion. The diurnal pattern was incorporated into the model using EMISFACT parameters, which adjusts emission rates throughout the day to reflect higher activity levels during peak traffic periods and lower activity levels during off-peak hours. However, for delivery trucks, the diurnal pattern was not applied since delivery trucks may not follow a typical diurnal pattern for the county. This results in a conservative estimation since activity is assumed to be equal at all times of the day, including nighttime when dispersion conditions are typically less optimal.

Turbulent eddies can form on the downwind side of buildings and may cause a plume from a stack or point source located near the building to be drawn towards the ground to a greater degree than if the building were not present. This is referred to as the "building downwash" effect. The downwash effect can increase the resulting ground-level pollutant concentrations downwind of a building. AERMOD takes this effect into account for sources modeled as point sources, such as the emergency

[21] Where the $PM_{2.5}$ concentration in the 2016 EIR was shown as "<0.01", the risk was conservatively assumed to be 0.01 for the scaling calculation.

[22] Where the Chronic HI in the 2016 EIR was shown as "<0.01", the risk was conservatively assumed to be 0.01 for the scaling calculation.

generators. AERMOD does not take the downwash effect into account for sources that are modeled as area or volume sources, such as construction activities or vehicle emissions. The dimensions and locations of the on-site buildings on the northeast parcel were included, as shown in **Figure 1**, to allow AERMOD to incorporate algorithms to evaluate the downwash effect on dispersion of point sources. The only point sources modeled in AERMOD are the new emergency generators for the warehouse/industrial buildings in the northeast parcels. A height of 60 feet was used for those warehouse/industrial buildings which was obtained from the Project developer. The direction-specific building downwash dimensions were determined by the latest version (04274) of the Building Profile Input Program, PRIME ("BPIP PRIME").

In the 2016 EIR, health risk impacts from loading docks and office emergency generators were modeled using AERSCREEN. Since the loading docks are associated with City Center parcels and are not expected to change with the land use densification, and the office emergency generator impacts are relatively small compared to the loading docks, the results of the AERSCREEN run from the 2016 EIR were added on top of the latest modeling results, which included revised truck traffic, truck idling at the northeast parcel loading docks, revised passenger vehicle travel, and northeast parcel emergency generators, to conservatively determine new project-level impacts.

The AERMOD files are provided electronically as **Appendix C**. The source and building setup are shown in **Figure 1**.

To conform with the latest BAAQMD CEQA guidelines for HRA, a 20 meter ("m") by 20 m receptor grid was used instead of the 100 m x 100 grid used in the 2016 EIR within 1,000 ft of the Project boundary. The revised receptor grid is shown in **Figure 2**. Receptor designations were changed to have residents and daycare co-located for all receptors located in City Center parcels. Additional daycare receptors within 1,000 meters of the Project boundary have been identified and included in the re-analysis. The area just south of the northeast parcels, known as Tasman East, is now proposed for additional residential development, which differs from the assumptions in the 2016 EIR. As a result, receptor types have been redesignated as residential and worker receptors based on the planned land uses for these areas. In addition, worker designations for off-site workers were added as part of this re-analysis. Both off-site and on-site receptors were modeled at the breathing height of ground floor receptors, assuming a breathing height of 1.5 m, consistent with the 2022 BAAQMD CEQA Guidelines.

Exposure Parameters and Health Risk Calculations

In February 2015, Office of Environmental Health Hazard Assessment ("OEHHA") released the updated Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, which combines information from previously-released and adopted technical support documents to delineate OEHHA's revised risk assessment methodologies based on current science.[23] In accordance with OEHHA's revised HRA guidelines, the BAAQMD CEQA Guidelines has adopted an intake methodology that addresses children's greater sensitivity and health impacts from early exposure to carcinogenic compounds. The updated calculation procedures include the use of age-specific weighting factors, breathing rates, fraction of time at home, and reduced exposure durations, as shown in the BAAQMD CEQA Guidelines Appendix E. This analysis followed the recommended methodology from the BAAQMD CEQA Guidelines.

[23] OEHHA. 2015. Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February.

Ramboll conservatively evaluated Project impacts due to operational emissions using default exposure assumptions for a resident child from OEHHA unless otherwise noted.[24] The resident child scenario assumes a much higher daily breathing rate and age-sensitivity factor ("ASF")[25] than other sensitive receptor populations and therefore is the most conservative scenario to evaluate for this analysis. The Project residential receptors were assumed to be exposed at the start of Project operation for 30 years. Other sensitive receptor locations including daycares, childcares, and elementary schools were identified in Project vicinity. Recreational, residential, and worker receptors near the Project were also evaluated and identified using zoning maps. Exposure periods for each of the non-residential sensitive land uses are assumed to be the same as the age range accepted at the location. The exposure parameters used to estimate excess lifetime cancer risks for the nearby sensitive receptors are presented in **Tables 16**. Compared to the exposure parameters used in the 2016 EIR, this analysis assumed a more conservative approach, consistent with the BAAQMD guidance.

Consistent with the analysis in the 2016 EIR, the dose estimated for each exposure pathway is a function of the concentration of a chemical and the intake of that chemical. The intake factor for inhalation, IF_{inh}, can be calculated as follows:

$$IF_{inh} = \frac{DBR * FAH * EF * ED * CF * ASF * FY}{AT}$$

Where:

IF_{inh}	=	Intake Factor for Inhalation (m^3/kg-day)
DBR	=	Daily Breathing Rate (L/kg-day)
FAH	=	Fraction of Time at Home (unitless)
EF	=	Exposure Frequency (days/year)
ED	=	Exposure Duration (years)
AT	=	Averaging Time (days)
CF	=	Conversion Factor, 0.001 (m^3/L)
ASF	=	Age Sensitivity Factor (unitless)
FY	=	Fraction of Year, to correct annualization of partial year emissions

The chemical intake or dose is estimated by multiplying the inhalation intake factor, IF_{inh}, by the chemical concentration in air, C_i. When coupled with the chemical concentration, this calculation is mathematically equivalent to the dose algorithm given in the OEHHA Hot Spots guidance.[26]

The toxicity assessment characterizes the relationship between the magnitude of exposure and the nature and magnitude of adverse health effects that may result from such exposure. This HRA evaluated theoretical exposures to TACs for two categories of potential adverse health effects, cancer and non-cancer endpoints. Toxicity values used to estimate the likelihood of adverse effects occurring in humans at different exposure levels are identified as part of the toxicity assessment component of a

[24] OEHHA. 2015. Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February.

[25] *Ibid.*

[26] Cal/EPA. 2003. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. Office of Environmental Health Hazard Assessment. August.

risk assessment. Toxicity values for the toxic air contaminant emissions evaluated in this analysis are as presented in **Table 17**.

Cancer risk and chronic HI were calculated from ambient annual concentrations using intake factors, cancer potency factors, and chronic reference exposure levels calculated consistent with the 2015 OEHHA Hot Spots Guidance[27] and 2022 BAAQMD CEQA guidance.[28]

As shown in **Table 3**, Scheme C would result in a maximum operational cancer risk of 9.6 in a million (threshold of 10), a maximum operational non-cancer hazard index of 0.03 (threshold of 1.0), and maximum operational $PM_{2.5}$ concentration of 0.281 µg/m^3 (threshold of 0.3 µg/m^3) at the maximally exposed individual ("MEI") for each impact type.

The Scheme C cancer and chronic health risks on on-site and off-site sensitive receptors are all below the BAAQMD thresholds of significance; thus, health risk impacts associated with the operation of Scheme C remain less than significant.

CLOSING

The analysis presented above represents emissions and health risk impacts from construction and operations of Scheme C. Based on the findings of this report, it is not expected that Scheme C will increase overall CAP emissions and GHG per capita mass emissions in comparison with the Approved Project, nor exceed BAAQMD CEQA thresholds of significance for health risk and $PM_{2.5}$. As discussed in the Impact Comparison section, Scheme C will not alter the impact conclusions of the 2016 EIR.

Attachments:

Tables

Figures

Appendix A: CalEEMod Outputs

Appendix B: Traffic Study

Appendix C: AERMOD Files (provided Electronically)

[27] OEHHA. 2015. Air Toxics Hot Spots Program. Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February.

[28] BAAQMD, 2022. CEQA Air Quality Guidelines. Available at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines. April 2022.

TABLES

Table 1
Comparison of Mitigated Criteria Air Pollutants Emissions: Scheme B vs. Scheme C Operations
Related Santa Clara
Santa Clara, CA

Categories	ROG	NOx	CO	PM_{10}	$PM_{2.5}$
	(lbs/day)				
Scheme B in DEIR (Table 3.4-9)[1]					
Mobile Sources	299	462	2,743	625	173
Area Sources	229	1.0	17	1.0	1.0
Energy Sources	5.0	48	40	4.0	4.0
Total	**534**	**511**	**2,801**	**629**	**177**
Scheme C (with Manufacturing)[2]					
Mobile Sources - Delivery Trucks (NE Parcel)[3,4]	1.4	57.0	7.8	4.8	2.09
Mobile Sources - Passenger Vehicle (NE Parcel)[3,4]	14	9.1	140	2.8	0.94
Mobile Sources (City Center + NW)[3]	251	191	1,978	520	134
Hearths	1.0	17	7.1	1.3	1.3
Consumer Products[5]	179	0	0	0	0
Architectural Coatings[6]	25	0	0	0	0
Energy Sources (NE Parcel)[7]	1.0	19	16	1.4	1.4
Energy Sources (City Center + NW)[7]	2.4	43	31	3.3	3.3
Total	**476**	**335**	**2,179**	**534**	**143**
EIR Thresholds	**54**	**54**	**--**	**82**	**82**
Percentage changes	**-11%**	**-34%**	**-22%**	**-15%**	**-19%**
Scheme C (with Warehouse)[4]					
Mobile Sources - Delivery Trucks with TRU (NE Parcel)[3,4]	34	105	14	6.7	3.1
Mobile Sources - Passenger Vehicle (NE Parcel)[3,4]	5.1	3.3	50	1.0	0.339
Mobile Sources (City Center + NW)[3]	251	191	1,978	520	134
Hearths	1.0	17	7.1	1.3	1.3
Consumer Products[5]	179	0	0	0	0
Architectural Coatings[6]	25	0	0	0	0
Energy Sources (NE Parcel)[7]	0.080	1.57	1.32	0.120	0.120
Energy Sources (City Center + NW)[7]	2.4	43	31	3.3	3.3
Total	**498**	**360**	**2,081**	**533**	**142**
EIR Thresholds	**54**	**54**	**--**	**82**	**82**
Percentage changes	**-7%**	**-30%**	**-26%**	**-15%**	**-20%**

Notes:

[1] Emissions of the mitigated Scheme C were compared to emissions in mitigated Scheme B from the EIR, which had higher emissions than Scheme A. Mitigated Scheme B from the EIR implemented mitigation measures GHG-1.2 and TRA-1.1 as indicated on page 3.4-32 of the DEIR. The same mitigation measures would be implemented in Scheme C.

[2] Emissions from hearths, consumer products, architectural coating, energy, and mobile sources for City Center were estimated in CalEEMod. CalEEMod was run for manufacturing land use and 50% refrigerated/50% unrefrigerated warehouses land uses for the northeast parcels. Mobile sources for the northeast parcels were estimated outside of CalEEMod as discussed in subsequent tables and use the trip generation rates corresponding to each scenario. The higher of daily winter or summer emissions are presented in this table.

[3] Mobile emissions include emissions from delivery trucks and passenger vehicles. Delivery trucks are conservatively assumed to be diesel-fueled and consist of light-heavy duty trucks 2 (LHDT2), medium-heavy duty trucks (MHDT) and heavy-duty trucks (HHDT) with half of the truck fleet assumed to be equipped with Transport Refrigeration Units (TRUs). Passenger vehicles are assumed to be gasoline-fueled and consist of passenger cars (LDA), light-duty trucks 1 (LDT1), and light-duty trucks 2 (LDT2). CARB Advanced Clean Truck Program and Advanced Clean Fleets Program are not taken into account because EMFAC2021 does not account for full potential emissions reductions associated with those regulations.

[4] Mobile emissions are calculated based on the trip generation rates for the project, as provided by the Project traffic engineer.

[5] An ROG consumer products emission factor from the California Emission Projection Analysis for Santa Clara is used instead of the CalEEMod default emission factor.

[6] In the EIR, the construction emissions are calculated assuming an ROG content of 100 grams per liter (g/L) for both interior and exterior architectural coatings. To be consistent, the same assumption is applied to the operation emission calculation.

[7] Emissions from electricity use were consistent with the analysis in the EIR to account for the mitigation measure GHG-1.2.

References:

The California Emissions Estimator Model (CalEEMod®). Available at: http://www.caleemod.com/

Abbreviations:

CO - carbon monoxide
DEIR - Draft Environmental Impact Report
lbs - pounds
NE - northeast
ROG - reactive organic gas
NOx - nitrogen oxides
NW - northwest
$PM_{2.5}$ - particulate matter less than 2.5 microns
PM_{10} - particulate matter less than 10 microns
CARB - California Air Resources Board

Table 2
Maximum Project Operation Excess Lifetime Cancer Risk, Chronic HI and PM2.5
Related Santa Clara
Santa Clara, California

Sources	Project Operation						
	Excess Lifetime Cancer Risk[1] in a million						
	Onsite Resident	Offsite Resident	Daycare	Offsite Worker	Onsite Worker	School	Recreational
Offsite Delivery Trucks	2.3	0.4	1.3	0.73	0.046	0.093	0.052
Onsite Delivery Trucks	0.066	1.057	0.04	0.200	0.21	0.0114	0.40
Truck Idling	0.065	0.720	0.04	0.064	0.48	0.013	0.10
Offsite TRU Trailer	3.2	0.6	1.8	0.33	0.045	0.13	0.060
Onsite TRU Trailer	0.034	0.553	0.020	0.068	0.18	0.0064	0.187
Unloading TRU Trailer	0.074	0.822	0.04	0.073	0.55	0.015	0.12
Offsite Passenger Vehicle	0.27	0.05	0.154	0.013	0.0033	0.015	0.0050
Emergency Generator	0.29	4.32	0.16	0.16	0.58	0.055	0.54
2015 AERSCREEN - Docks	1.1	1.1	0.48	0.063	0.027	0.061	0.14
2015 AERSCREEN - Generators	0.090	0.090	0.040	0.0051	0.0023	0.0050	0.012
Operations Total	7.5	9.6	4.1	1.7	2.1	0.41	1.6
Significance Threshold	**10**	**10**	**10**	**10**	**10**	**10**	**10**
Exceeds thresholds?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
UTMx	591436	591756	591436	590915	591416	591656	591596
UTMy	4140479	4141019	4140479	4141565	4141239	4140399	4141279

Sources	Chronic HI[2]						
	unitless						
	Onsite Resident	Offsite Resident	Daycare	Offsite Worker	Onsite Worker	School	Recreational
Offsite Delivery Trucks	6.2E-04	4.6E-04	2.6E-04	0.0024	1.5E-04	2.2E-04	1.1E-04
Onsite Delivery Trucks	1.8E-05	2.1E-05	6.8E-06	6.5E-04	6.7E-04	2.7E-05	8.4E-04
Truck Idling	1.7E-05	2.3E-05	7.0E-06	2.1E-04	0.0016	3.1E-05	2.1E-04
Offsite TRU Trailer	8.6E-04	0.0008	4.0E-04	1.1E-03	1.4E-04	3.1E-04	1.3E-04
Onsite TRU Trailer	9.2E-06	1.2E-05	3.8E-06	2.2E-04	5.8E-04	1.5E-05	3.9E-04
Unloading TRU Trailer	2.0E-05	2.7E-05	8.0E-06	2.3E-04	0.0018	3.5E-05	2.4E-04
Offsite Passenger Vehicle	0.0012	0.0020	0.0021	6.9E-04	1.7E-04	5.6E-04	0.0002
Emergency Generator	7.8E-05	1.0E-04	4.2E-05	5.2E-04	0.0019	1.3E-04	1.1E-03
2015 AERSCREEN - Docks	0.010	0.010	0.010	0.010	0.010	0.010	0.010
2015 AERSCREEN - Generators	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Operations Total	0.023	0.023	0.023	0.026	0.027	0.021	0.023
Significance Threshold	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Exceeds thresholds?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
UTMx	591436	591516	590516	590915	591416	591656	591596
UTMy	4140479	4140459	4140739	4141565	4141239	4140399	4141279

Sources	$PM_{2.5}$ Concentration						
	$\mu g/m^3$						
	Onsite Resident	Offsite Resident	Daycare	Offsite Worker	Onsite Worker	School	Recreational
Offsite Delivery Trucks	0.0036	0.004	0.0044	0.0059	0.0070	0.0038	0.0028
Onsite Delivery Trucks	9.8E-05	6.2E-04	1.2E-04	2.8E-04	0.0104	4.6E-04	1.6E-04
Truck Idling	2.6E-05	2.2E-04	3.3E-05	8.8E-05	0.0007	1.5E-04	3.7E-05
Offsite TRU Trailer	0.0015	0.0024	0.0019	0.0019	0.0019	0.0014	0.0023
Onsite TRU Trailer	1.4E-05	9.7E-05	1.8E-05	4.4E-05	9.9E-04	7.0E-05	2.1E-05
Unloading TRU Trailer	2.9E-05	2.4E-04	3.7E-05	9.7E-05	0.0008	1.6E-04	4.1E-05
Offsite Passenger Vehicle	0.18	0.248	0.23	0.25	0.132	0.061	0.242
Emergency Generator	1.8E-04	8.1E-04	2.1E-04	4.0E-04	0.0025	6.5E-04	2.4E-04
2015 AERSCREEN - Docks	0.010	0.010	0.010	0.010	0.010	0.010	0.010
2015 AERSCREEN - Generators	0.010	0.010	0.010	0.010	0.010	0.010	0.010
Operations Total	0.20	0.276	0.258	0.281	0.18	0.09	0.268
Significance Threshold	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**	**0.30**
Exceeds thresholds?	**No**	**No**	**No**	**No**	**No**	**No**	**No**
UTMx	590536	591636	590516	590516	591076	591656	591296
UTMy	4140639	4140519	4140739	4141119	4141759	4140399	4140339

Note:

1. Excess lifetime cancer risks were estimated using the following equation:

$Risk_{inh} = \Sigma C_i \times CF \times IF_{inh} \times CPF_i \times ASF$

Where:

$Risk_{inh}$ = Cancer Risk for the Inhalation Pathway (unitless)
C_i = Annual Average Air Concentration for Chemical "i" ug/m^3
CF = Conversion Factor (mg/ug)
IF_{inh} = Intake Factor for Inhalation (m^3/kg-day)
CPF_i = Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$
ASF = Age Sensitivity Factor (unitless)

2. Chronic HI for each receptor was estimated using the following equation:

$HI_{inh} = \Sigma C_i / cREL$

Where:

HI_{inh} = Chronic HI for the Inhalation Pathway (unitless)
C_i = Annual Average Air Concentration for Chemical "i" (ug/m^3)
cREL = Chronic Reference Exposure Level (ug/m^3)

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
HI - Hazard Index
m^3 - cubic meter
µg - microgram
UTMx, UTMy - Universal Transverse Mercator coordinates

Reference:

BAAQMD. 2023. California Environmental Quality Act Air Quality Guidelines. Available at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines

OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February.

Table 3
Comparison of Mitigated Greenhouse Gas Emissions: Scheme B vs. Scheme C Operations
Related Santa Clara
Santa Clara, CA

Categories	CO_2e (MT/year)
Existing (refer to DEIR Table 3.5-6)	3,834
Amortized Construction Emissions (30-year)	863
Scheme B in DEIR (Table 3.5-6)[1]	
Mobile Sources	71,102
Area Sources	9.0
Energy Sources	20,114
Water Consumption	930
Waste Generation	4,830
Total (project-only)	**96,985**
Total (with amortized construction minus existing)	**94,014**
Service Population	**29,200**
Emissions per Service Population (MT/year/population)	**3.2**
Scheme C (with Manufacturing)	
Mobile Sources - Delivery Trucks (NE Parcel)[3,4]	8,997
Mobile Sources - Passenger Vehicle (NE Parcel)[3,4]	7,242
Mobile Sources (City Center + NW)[3]	54,932
Area Sources[5]	86
Energy Sources - Electricity (NE Parcel)[6]	871
Energy Sources - Natural Gas (NE Parcel)	3,728
Energy Sources - Electricity (City Center + NW)[6]	4,902
Energy Sources - Natural Gas (City Center + NW)	8,668
Water Consumption[7,8]	1,919
Waste Generation[9]	1,635
Total (project-only)	**92,980**
Total (with amortized construction minus existing)	**90,009**
Percentage Change of Mass Emissions	**-4.3%**
Service Population[10]	**27,590**
Emissions per Service Population (MT/year/population)	**3.26**
Scheme C (with Warehouse)	
Mobile Sources - Delivery Trucks with TRU (NE Parcel)[3,4]	12,844
Mobile Sources - Passenger Vehicle (NE Parcel)[3,4]	2,606
Mobile Sources (City Center + NW)[3]	54,932
Area Sources[5]	86
Energy Sources - Electricity (NE Parcel)[6]	1,328
Energy Sources - Natural Gas (NE Parcel)	311
Energy Sources - Electricity (City Center + NW)[6]	4,902
Energy Sources - Natural Gas (City Center + NW)	8,668
Water Consumption[7,8]	1,919
Waste Generation[9]	1,559
Refrigerant Emissions (NE Parcel)[11]	3,530
Total (project-only)	**92,684**
Total (with amortized construction minus existing)	**89,713**
Percentage Change of Mass Emissions	**-4.6%**
Service Population[10]	**27,590**
Emissions per Service Population (MT/year/population)	**3.25**

Table 3 (continued)
Comparison of Mitigated Greenhouse Gas Emissions: Scheme B vs. Scheme C Operations
Related Santa Clara
Santa Clara, CA

Notes:

[1] Emissions of the mitigated Scheme C were compared to emissions in mitigated Scheme B from the EIR, which had higher emissions than Scheme A in the EIR. Mitigated Scheme B from the EIR implemented mitigation measures GHG-1.2 and TRA-1.1 as indicated on page 3.4-32 in the DEIR. The same mitigation measures would be implemented in Scheme C.

[2] Emissions from area sources, energy, and mobile sources for City Center were estimated in CalEEMod. CalEEMod was run for manufacturing land use and 50% refrigerated/50% unrefrigerated warehouses land uses for the northeast parcels. Mobile sources for the northeast parcels were estimated outside of CalEEMod as discussed in subsequent tables and use the trip generation rates corresponding to each scenario.

[3] Mobile emissions include emissions from delivery trucks and passenger vehicles. Delivery trucks are conservatively assumed to be diesel-fueled and consist of light-heavy duty trucks 2 (LHDT2), medium-heavy duty trucks (MHDT) and heavy-duty trucks (HHDT) with half of the truck fleet assumed to be equipped with Transport Refrigeration Units (TRUs). Passenger vehicles are assumed to be gasoline-fueled and consist of passenger cars (LDA), light-duty trucks 1 (LDT1), and light-duty trucks 2 (LDT2). CARB Advanced Clean Truck Program and Advanced Clean Fleets Program are not taken into account because EMFAC2021 does not account for full potential emissions reductions associated with those regulations.

[4] Mobile emissions are calculated based on the trip rates for the project, as provided by the Project traffic engineer.

[5] Only electric landscape equipment will be used.

[6] Emissions from electricity use were consistent with the analysis in the EIR to account for the mitigation measure GHG-1.2.

[7] Consistent with the EIR, low-flow fixtures, including faucets, water closets, and urinals, will be installed.

[8] Consistent with the EIR, a 10% indoor and 20% outdoor water will be reduced by the implementation of water conversation strategies.

[9] Consistent with the EIR, it is anticipated that recycling programs would divert at least 50 percent of Project waste from regional landfills.

[10] Using the same methodology as the EIR for calculating the service population as outlined in table 3.12-6 of the EIR, the revised land use acreages and addition of the light industrial land use, resulted in a calculated service population of 27,590 which is detailed in Table 10.

[11] Half of the warehouse is assumed to be refrigerated.

References:

The California Emissions Estimator Model (CalEEMod®). Available at: http://www.caleemod.com/

Abbreviations:

CO_2e - carbon dioxide equivalent
DEIR - Draft Environmental Impact Report
NE - northeast
NW - northwest
MT - metric ton

RAMBOLL

Table 4
Consumer Products Emission Factor
Related Santa Clara
Santa Clara, California

Year	County	Countywide Consumer Products VOC inventory (tons/day)[1]	Total County Building Area (sqft)[2]	Consumer Products VOC EF (lb/sqft/day)
2030	Santa Clara	15.265	1,554,943,566	1.96E-05

Notes:

1. ROG consumer products inventory obtained from California Emissions Projection Analysis Model for Santa Clara County.
2. Total building square footage in Santa Clara County for 2030 was obtained from FEMA HAZUS-MH software (version 6.0). The 2020 emission factor was conservatively assumed to represent the emission factor at full buildout.

Abbreviations:

lb - pound

ROG - Reactive Organic Compounds

EF - emission factor

sqft - square foot

References:

California Air Resources Board. California Emissions Projection Analysis Model, CEPAM2019v1.03. Available online at https://ww2.arb.ca.gov/applications/cepam2019v103-standard-emission-tool.

US Federal Emergency Management Agency's Hazus software (HAZUS-MH), Version 6.0. Available online at https://msc.fema.gov/portal/resources/hazus.

Conversion

2000 lbs/ton

Table 5
Trip Information and Vehicle Fuel Usage of Scheme C Operations for Northeast Parcels
Related Santa Clara
Santa Clara, California

Scenario	Fleet Type	Average Trip Rate[1]	Average Trip Length[2]	Annual Activity	Annual Trips[3]	Annual VMT[3]	Fuel Type	Fuel Consumption per Mile[4]	Annual Gallons of Fuel Consumption[4]
		one-way trips/day	mi/one-way trip	days/year	one-way trips/yr	mi/yr		gal/mi	gal/year
Manufacturing Buildout	Delivery Trucks	720	25	365	262,800	6,570,000	Diesel	0.12	883,878
	Passenger Vehicles	7,600	9.5	365	2,774,000	26,439,496	Gasoline	0.032	839,797
Warehouse Buildout	Delivery Trucks	960	25	365	350,400	8,760,000	Diesel	0.12	1,178,504
	Passenger Vehicles	2,735	9.5	365	998,275	9,514,740	Gasoline	0.032	302,217

Notes:

[1] The total daily trip rates for trucks and passenger vehicles were provided by the Project's traffic engineer. For passenger vehicles, the trip rates for each fleet category were estimated based on the weighted CalEEMod default fleet mix for LDA, LDT1, and LDT2.

[2] The average trip length for delivery trucks was provided by Related based on the average of the distances from the proposed light industrial land use to and from the surrounding major ports, which include the San Francisco International Airport, Port of Oakland, and San Jose International Airport. The proposed light industrial land use would primarily intend to receive and deliver shipments to and from those ports. To determine an average trip length for passenger vehicles, Ramboll used 2022 CalEEMod default trip type lengths, trip type percentages and trip purpose percentages for manufacturing land use.

[3] Annual trips and annual VMT were calculated assuming 365 days per year.

[4] Fuel usage based on VMT data and fleet-average fuel consumption in gallons per mile from EMFAC2021 for 2030 in Santa Clara County.

Abbreviations:

CalEEMod- California Emissions Estimator Model
EMFAC2021 - California Air Resources Board EMission FACtor model
HHDT - heavy-heavy-duty truck
LDA - light-duty automobiles
LDT1 - Light-duty trucks (gross vehicle weight rating <6000 pounds. And equivalent test weight <= 3750 pounds)
LDT2 - Light-duty trucks (gross vehicle weight rating <6000 pounds. And equivalent test weight <= 3751-5750 pounds)
mi - mile
VMT - vehicle miles travelled
yr - year

References:

The California Emissions Estimator Model (CalEEMod®). Available at: http://www.caleemod.com/

Table 6
Operational On-Road Emission Factors
Related Santa Clara
Santa Clara, California

Emission Factors for CAP and GHGs

Fleet Type	Fuel	Fleet Category	Fleet Percentages[1]	Emission Factor Units	Mobile Emission Factors[2]								
					CAPs					GHGs[3]			
					ROG	NOx	PM_{10}	$PM_{2.5}$	CO	CO_2	CH_4	N_2O	CO_2e
Delivery Trucks	Diesel	HHDT	62.5%	g/mile	0.014	1.565	0.141	0.062	0.062	1474.596	0.001	0.232	1,544
				g/trip	--	2.89	--	--	--	--	--	--	--
		LHDT2	12.2%	g/mile	0.13	0.75	0.13	0.06	0.32	728.40	0.01	0.11	763
				g/trip	--	--	--	--	--	--	--	--	0
		MHDT	25.4%	g/mile	0.015	0.731	0.064	0.025	0.073	1109.144	0.001	0.175	1,161
				g/trip	--	--	--	--	--	--	--	--	0,000
		HDT_MIX		g/mile	0.028	1.254	0.120	0.052	0.096	1291.016	0.001	0.203	1351.661
				g/trip	--	2.20	--	--	--	--	--	--	--
Passenger Vehicles	Gasoline	LDA	65.2%	g/mile	0.0051	0.027	0.017	0.0055	0.56	246	0.0015	0.0037	247
				g/trip	0.75	0.20	0.0017	0.0015	2.4	62	0.052	0.029	72
		LDT1	4.5%	g/mile	0.014	0.067	0.019	0.0064	0.91	295	0.0033	0.0060	297
				g/trip	1.3	0.28	0.0021	0.0019	3.5	76	0.072	0.033	87
		LDT2	30.3%	g/mile	0.00705	0.04252	0.017996	0.00607	0.65937	300.74448	0.00194	0.00449	302.13125
				g/trip	0.78587	0.25433	0.00170	0.00156	2.80913	76.34787	0.06196	0.03252	87.58784
		LD_MIX		g/mile	0.0061	0.034	0.017	0.0057	0.61	265	0.0017	0.0040	266
				g/trip	0.79	0.22	0.0017	0.0016	2.6	67	0.056	0.030	77

Emission Factors for Health Risk Assessment (HRA)

Fleet Type	Fuel	Fleet Category	Fleet Percentages[1]	Emission Factor Units	Mobile Emission Factors[4]				
					TOG (exhaust)	TOG (evaporation)	DPM	$PM_{2.5}$	$PM_{2.5}$ (fugitive)
Delivery Trucks	Diesel	HDT_MIX	Aggregate of HHDT, LHDT2, MHDT	g/mile	--	--	0.021	0.052	0.020
Passenger Vehicles	Gasoline	LDA	65.2%	g/mile	0.0074	0.067	--	0.0055	
		LDT1	4.5%	g/mile	0.020	0.13	--	0.0064	
		LDT2	30.3%	g/mile	0.010	0.068	--	0.0061	

Notes:

1. Delivery trucks are conservatively assumed to be diesel-fueled and consist of light-heavy duty trucks 2 (LHDT2), medium-heavy duty trucks (MHDT) and heavy-duty trucks (HHDT) with half of the truck fleet assumed to be equipped with Transport Refrigeration Units (TRUs). Passenger vehicles are assumed to be gasoline-fueled and consist of passenger cars (LDA), light-duty trucks 1 (LDT1), and light-duty trucks 2 (LDT2). California Air Resources Board Advanced Clean Truck Program and Advanced Clean Fleets Program are not taken into account because EMFAC2021 does not account for full potential emissions reductions associated with those regulations.
2. Emission factors were estimated using EMFAC2021 for Santa Clara County. EMFAC2021 was run in Emission Rates mode for calendar year 2030 in the annual season. The following processes have units of g/trip: DIRUN, HOTSOAK, RESTLOSS, STREX, and IDLEX. The following processes have units of g/mile: PMBW, PMTW, RUNEX, and RUNLOSS. Processes with units of g/vehicle/day were converted to g/trip using the population and trip rate values given in the EMFAC2021 run. Note that idling emissions (IDLEX) are excluded from the emission factors presented above and are separately calculated for the delivery trucks in Table 9.
3. Emission factors for CO_2e were estimated by multiplying the CH_4 and N_2O emission factors by their global warming potentials from the CalEEMod Appendix G Table G-39.
4. For HRA, the RUNLOSS process has units of g/trip which were converted to g/mile based on EMFAC outputs for total trips and total VMT. Note that IDLEX, STREX, DIURN, HOTSOAK processes are excluded from the emission factors presented above. Health impacts from gasoline are estimated by speciating TOG emissions. Health impacts from diesel fueled vehicles are estimated using DPM as PM_{10} exhaust. $PM_{2.5}$ concentration is estimated from all vehicles. PM_{10} emission factors only include RUNLOSS. $PM_{2.5}$ emission factors include RUNLOSS, PMTW, and PMBW. The on-road fugitive dust $PM_{2.5}$ emission factor is detailed in Tables 11-12.

Abbreviations:

CAP - Criteria Air Pollutant
CH_4 - methane
CO - carbon monoxide
CO_2 - carbon dioxide
CO_2e - carbon dioxide equivalent
DIURN - diurnal evaporative hydrocarbon emissions
DPM - diesel particulate matter
EMFAC2017 - California Air Resources Board EMission FACtor model
g - grams
GHG - greenhouse gas
HHDT - heavy-heavy-duty truck
HOTSOAK - hot soak evaporative hydrocarbon emissions
HRA - health risk assessment
IDLEX - idle exhaust emissions
LDA - light-duty automobiles
mi - mile
N_2O - Nitrous oxide
NO_x - nitrogen oxides
PM - particulate matter
PMBW - break wear particulate matter emissions
PMTW - tire wear particulate matter emissions
RESTLOSS - resting evaporative losses
ROG - reactive organic gases
RUNEX - running exhaust emissions
RUNLOSS - running loss evaporative hydrocarbon emissions
STREX - start exhaust tailpipe emissions
TOG - toxic organic gases
LDT1 - Light-duty trucks (gross vehicle weight rating <6000 pounds. And equivalent test weight <= 3750 pounds)
LDT2 - Light-duty trucks (gross vehicle weight rating <6000 pounds. And equivalent test weight <= 3751-5750 pounds)

References:

California Air Resources Board (ARB) 2021. EMFAC2021. Available at: https://ww2.arb.ca.gov/our-work/programs/mobile-source-emissions-inventory/msei-modeling-tools
The California Emissions Estimator Model (CalEEMod®). Available at: http://www.caleemod.com/

Table 7
Mobile Criteria Air Pollutants and Greenhouse Gas Emissions from Scheme C Operations from Northeast Parcels Related Santa Clara
Santa Clara, California

Scenario	Fleet Type	Annual CAP and GHG Emissions					
		ROG	NOx	PM_{10}	$PM_{2.5}$	CO	CO_2e
		[tons/yr]					[MT/yr]
Manufacturing Buildout	Delivery Trucks	0.20	9.7	0.87	0.38	0.69	8,880
	Passenger Vehicles	2.6	1.7	0.50	0.17	26	7,242
	Total	**2.8**	**11**	**1.4**	**0.55**	**26**	**16,123**
Warehouse Buildout	Delivery Trucks	0.27	13	1.2	0.50	0.93	11,841
	Passenger Vehicles	0.93	0.60	0.18	0.062	9.2	2,606
	Total	**1.2**	**14**	**1.3**	**0.57**	**10**	**14,447**

Scenario	Fleet Type	Average Daily CAP Emissions				
		ROG	NOx	PM_{10}	$PM_{2.5}$	CO
		[lbs/day]				
Manufacturing Buildout	Delivery Trucks	1.1	53	4.8	2.1	3.8
	Passenger Vehicles	14	9.1	2.8	0.94	140
	Total	**15**	**62**	**7.5**	**3.0**	**144**
Warehouse Buildout	Delivery Trucks	1.5	71	6.4	2.8	5.1
	Passenger Vehicles	5.1	3.3	1.0	0.34	50
	Total	**6.6**	**74**	**7.4**	**3.1**	**55**

Notes:
1. Mobile emissions were estimated based on trip rates shown in Table 5 and on-road emission factors in Table 6.
2. These emissions do not contain the emissions from idling and Transportation Refrigeration Units.

Abbreviations:
CAP - Criteria Air Pollutant
CO - carbon monoxide
CO2e - carbon dioxide equivalent
GHG - greenhouse gas
lbs - pounds
MT - metric ton

Table 8
Transportation Refrigeration Unit (TRU) Criteria Air Pollutants Emissions from Scheme C Operations from Northeast Parcels Related Santa Clara
Santa Clara, California

TRU Usage Inputs [Unit]		Trailer TRU
TRU Usage[1] [One-way trips/day]		480
Percent of time when engine is on during TRU operation [--][2]		62.5%
Operational Days [days/yr]		365
TRU Engine Operation During Travel	Average Speed Traveled by Truck[3] [mi/hr]	25
	Average Miles Traveled by Truck[4] [mi/one-way trip]	25
	Annual Hours of Operation During Travel [hr]	109,500
TRU Engine Operation During Unloading	Unloading Time per TRU[5] [hour/one-way trip]	0.083
	Annual Hours of Operation During Unloading [hr]	9,125

TRU Emission Factors

Source	Year[6]	Emission Factor (g/hour)[7]						
		ROG	NO_X	PM_{10}	$PM_{2.5}$	CO	CO_2	CO_2e[8]
Trailer TRU	2030	44	40	0.42	0.38	4.8	6,827	7,148

TRU Emissions

TRU Type	Operation	Annual Daily CAP Emissions (lbs/day)					Annual GHG Emissions MT/year	
		ROG	NO_X	PM_{10}	$PM_{2.5}$	CO	CO_2	CO_2e[8]
Trailer TRU	Operation During Travel	29	26	0.28	0.25	3.2	748	783
	Operation During Unloading	2.4	2.2	0.023	0.021	0.27	62	65

Notes:

1. TRU usage is assumed for half of operational trucks.
2. According to ARB Appendix H: 2021 Update to Emissions Inventory for Transport Refrigeration Units, TRU engines are generally running about 62.5% of time that a TRU unit is turned on.
3. Per Vehicle Code § 22350 VC "Prima facie" speed limits, the standard speed limit for business or residential districts in CA is 25 MPH. Some streets near the Project have limits of 30 MPH and a portion of each delivery trip will be on highways, but 25 MPH was conservatively assumed for the entire trip.
4. The average trip length for delivery trucks was provided by Related based on the average of the distances from the proposed light industrial land use to and from the surrounding major ports, which include the San Francisco International Airport, Port of Oakland, and San Jose International Airport. The proposed light industrial land use would primarily intend to receive and deliver shipments to and from those ports.
5. The loading bays will be equipped with electrical plugs, which TRU units will be plugged in for power. Related assumes TRUs will be diesel-powered for 5 minutes during unloading and 5 minutes during loading to accommodate for the time it would take to plug in. 5 minutes is consistent with the CARB ACTM (Title 13, CCR, Section 2485).
6. Emissions from TRUs decrease over time, but the earliest possible year was chosen to calculate criteria air pollutant emissions from TRUs.
7. Based on OFFROAD2021 for Transportation Refrigeration Unit vehicle class.
8. OFFROAD2021 does not have CH_4, N_2O, or CO_2e for TRUs. In order to determine a value for CO_2-equivalent (CO_2e) greenhouse gases, the CO_2 emission factor for TRU was scaled by the CO_2e factor/CO_2 factor for Related's assumed Santa Clara truck fleet mix consisting of HHDT, LHDT2, and MHDT.

Abbreviations:

ARB - [California] Air Resources Board
CO - carbon monoxide
CO2e - carbon dioxide equivalent
g - gram
hr - hour
mi - mile
NO_X - oxides of nitrogen
PM - particulate matter
ROG - reactive organic gases
TRU - transportation refrigeration unit
yr - year

References:

California Air Resources Board. 2021 OFFROAD database. Available at: https://arb.ca.gov/emfac/emissions-inventory/.

California Air Resources Board. Appendix H: 2021 Update to Emissions Inventory for Transport Refrigeration Units. July. Available at: https://ww2.arb.ca.gov/sites/default/files/barcu/board/rulemaking/tru2021/apph.pdf.

California Air Resources Board. Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Available at: https://ww2.arb.ca.gov/our-work/programs/atcm-to-limit-vehicle-idling/about

Table 9
Idling Criteria Air Pollutants Emissions from Onsite Truck Activity in Northeast Parcels
Related Santa Clara
Santa Clara, California

Truck Idling Inputs[1]

Parameter	From Manufacturing	From Warehouse	Units
Average Number of Delivery Trucks per Day	720	960	one-way trips/day
Idle Time	5	5	min/one-way trip
Operational Days per Year	365	365	days/yr
Total Annual Delivery Trucks Idling	21,900	29,200	idle-hr/yr

Truck Idling Emission Factors and Emissions

Truck Type	Pollutant	Idling Emission Factors[2] (g/idle-hr)	Emissions		
			From Manufacturing	From Warehouse	Units
Delivery Trucks	ROG	2.0	0.27	0.35	lbs/day
	NO_X	28	3.7	5.0	lbs/day
	PM_{10}	0.11	0.015	0.020	lbs/day
	$PM_{2.5}$	0.11	0.014	0.019	lbs/day
	CO	30	4.0	5.3	lbs/day
	CO_2e	5,338	117	156	MT/yr

Notes:

1. 5 minutes of truck idling time assumed for each one-way trip according to Title 13, CCR, Section 2485.
2. Emission factors for diesel truck idling in Santa Clara County for the operational year of 2030 were estimated using EMFAC2021.

Abbreviations

CO - carbon monoxide
CO_2e - carbon dioxide equivalent
EMFAC - EMission FACtors model
g - grams
idle-hr - hour spent idling
lbs - pounds
min - minute
NOx - nitrogen oxides
PM - particulate matter
ROG - reactive organic gases
tpy - tons per year
yr - year
MT - metric ton

References

ARB. 2021. EMission FACtors Model, 2021 (EMFAC2021). Available online at: https://arb.ca.gov/emfac/emissions-inventory

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Table 10
Scheme C Service Population Calculations
Related Santa Clara
Santa Clara, California

Land Use	Gross Square Footage	Dwelling Units/Rooms	Generation Rate[1]		Projected Residents/ Employees
On-site Residents					
Residential[2]	1,680,000	1,680	2.4	persons/household	4,030
Total Residential	1,680,000	1,680	--	--	*4,030*
Employees					
Retail	800,000	--	450	gsf/employee	1,778
Office	4,517,400	--	270	gsf/employee	16,731
Hotel	567,000	--	840	gsf/employee	675
Residential	1,680,000	1,680	1	employee/32 units	53
Industrial[3]	1,600,000	--	331	gsf/employee	4,834
Total Project Employees	--	--	--	--	*24,070*
Existing On-site Employees	--	--	--	--	35
Existing Off-site Employees	127,500		270	gsf/employee	475
Total Net New Employees	127,500	--	--	--	*23,560*
Total Service Population					*27,590*

Notes:

1. The generation rates for all land uses except industrial were obtained from Table 3.12-6 in the EIR.
2. To be consistent with the Approved Project, the calculated on-site residents were rounded down to 4,030.
3. The generation rate for industrial land use was obtained from the Industrial Land and Jobs Study for the San Francisco Bay Area.

References:

University of California Transportation Center (UCTC). 2017. Industrial Land and Jobs Study for the San Francisco Bay Area. Available at: https://dot.ca.gov/-/media/dot-media/programs/research-innovation-system-information/documents/final-reports/ca17-2792-finalreport-a11y.pdf.

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Table 11
Silt Loading Emission Factors
Related Santa Clara
Santa Clara, California

Entrained Roadway Dust Constants for Santa Clara County		
Roadway Category	**Silt Loading[1] (g/m^2)**	**Travel Fraction[1]**
Freeway	0.015	49%
Major	0.032	37%
Collector	0.032	6%
Local	0.32	7%
Weighted Silt Loading Factor	0.044	100%

Notes:

1. Travel fraction by roadway category and silt loading are from the California ARB's Entrained Road Travel Emission Inventory Source Methodology, Tables 2 and 4, respectively.

Abbreviations:

ARB - Air Resources Board
g - gram(s)
m - meter

References:

California Air Resources Board. 2021. Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust. March. Available online at: https://ww3.arb.ca.gov/ei/areasrc/fullpdf/2021_paved_roads_7_9.pdf

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Table 12
On-Road Fugitive Dust Emissions from Project Operations within Modeling Extent
Related Santa Clara
Santa Clara, California

Road Dust Equation[1]

E = k*(sL)^0.91 * (W)^1.02 * (1-P/4N)

Parameter[2]	Value
E = annual average emission factor in the same units as k	[calculated]
k = particle size multiplier for particle size range and units of interest	
PM_{10} (lb/VMT)	0.0022
$PM_{2.5}$ (lb/VMT)	3.3E-04
sL = road surface silt loading (grams per square meter) (g/m^2) [2]	0.044
W = average weight (tons) of all the vehicles traveling the road	2.4
P = number of "wet" days with at least 0.01 in of precipitation during averaging period [3]	64
N number of days in the averaging period	365

Scenario[4]	Fugitive $PM_{2.5}$	Units
Emission Factor	4.5E-05	lb/VMT

Notes:

1. The road dust equation for paved roads is from the California Air Resources Board's (ARB) 2018 Miscellaneous Process Methodology 7.9 for Entrained Road Travel, Paved Road Dust.
2. As shown in Table 11, the silt loading emission factor assumes Santa Clara county default roadway fractions and silt loading levels from ARB 2021.
3. The number of "wet" days for Santa Clara County is from Table 23 of 2022 BAAQMD CEQA Guidelines Appendix E (64 days).
4. Emission factors calculated using Road Dust Equation and parameters presented in upper sub-table. Fugitive emission rates calculated as product of the emission factor and annual VMT.

Abbreviations:

ARB - Air Resources Board
BAAQMD - Bay Area Air Quality Management District
CalEEMod® - California Emissions Estimator Model
lb - pounds
PM - particulate matter
VMT - vehicle miles traveled

References:

California Air Pollution Control Officers Association (CAPCOA). California Emissions Estimator Model (CalEEMod®), Version 2022.1.1. Available online at http://www.caleemod.com/

California ARB. 2018. Miscellaneous Processes Methodologies - Paved Entrained Road Dust. Available online at: https://www.arb.ca.gov/ei/areasrc/fullpdf/full7-9_2018.pdf

BAAQMD. 2023. 2022 CEQA Guidelines Appendix E. Available online at https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-e-recommended-methods-for-screening-and-modeling-local-risks-and-hazards_final-pdf.pdf?rev=b8917a27345a4a629fc18fc8650951e4&sc_lang=en.

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Table 13
Emissions from Emergency Generators for Northeast Parcels and Outage History
Related Santa Clara
Santa Clara, California

Emergency Generator Emission Factors

Engine Type	Fuel	Engine Size (hp)	Engine Emission Factors[1] (g/bhp-hr)	
			DPM	$PM_{2.5}$
Emergency Generator	Diesel	671	0.15	0.15

Emergency Generator Emissions[2]

Scenario	Number of Engines	Load Factor	Size		Fuel Type	Annual Operation[3]	Annual Emissions, g/s	
			kW	hp		hr/yr	DPM	$PM_{2.5}$
Project Operation	10	0.74	500	671	Diesel	50	1.2E-03	1.2E-03

Silicon Valley Power Outage History (Northwest Region)[3]

Start Date/Time	End Date/Time	Duration (Hours)
7/20/2023 6:25	7/20/2023 8:30	2.08
2/21/2023 14:29	2/21/2023 16:39	2.17
2023 Total Outage Hours		**4.25**
12/24/2022 12:09	12/24/2022 14:30	2.35
6/17/2022 9:30	6/17/2022 10:05	0.58
3/3/2022 7:33	3/3/2022 8:53	1.33
2022 Total Outage Hours		**4.27**
7/1/2021 13:09	7/1/2021 13:16	0.12
7/1/2021 13:08	7/1/2021 13:09	0.02
2021 Total Outage Hours		**0.13**

Notes

[1] Engine emission factors for PM_{10} and $PM_{2.5}$ (assumed all engines are diesel fueled and that all PM_{10} is diesel particulate matter) based on ARB standards for Tier 2 diesel generator engines.

[2] Number, size, and fuel of the emergency generator engine was provided by Related.

[3] Historically, in the past three years from 2021 to 2023, annual outages have not exceeded 5 hours per year in the northwestern region of Silicon Valley Power (SVP) jurisdiction. In addition, generators are required to be tested monthly for thirty minutes under load which equals 12 hours per year plus any additional time for maintenance, which is expected to be minimal. Thus, a maximum of 50 hours per year of engine operations is not likely to be exceeded.

Abbreviations

g - grams
s - seconds
hr - hour
yr - year
hp - horsepower
kW - kilowatt
$PM_{2.5}$ - Particulate matter less than 2.5 microns in aerodynamic diameter
DPM - Diesel Particulate Matter

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Table 14
Trip Rates and Modeled On-Road Toxic Air Contaminant (TAC) Emission Rates from Operational Trips
Related Santa Clara
Santa Clara, California

Operations (2030)

Fleet Type	Fleet Category	Source Group	Average Trip Rate[1]	Segment Length[2]	Annual Activity	Annual Trips[3]	Annual VMT[3]	DPM Emission Rate	$PM_{2.5}$ Emission Rate[4]	TOG_EXH Emission Rate	TOG_EVAP Emission Rate
			one-way trips/day	mi/one-way trip	days/year	one-way trips/yr	mi/yr	g/s			
Delivery Trucks	HDT_MIX	LAF_N	44	0.22	365	16,060	3,594	2.4E-06	8.3E-06	--	--
	HDT_MIX	LAF_S_2	704	0.078	365	256,960	20,051	1.3E-05	4.6E-05	--	--
	HDT_MIX	LAF_S_1	256	1.30	365	93,440	121,200	8.1E-05	2.8E-04	--	--
	HDT_MIX	TAS_W	24	0.86	365	8,760	7,556	5.0E-06	1.7E-05	--	--
	HDT_MIX	TAS_E	10	0.37	365	3,650	1,356	9.1E-07	3.1E-06	--	--
	HDT_MIX	GAP_1	472	0.13	365	172,280	22,217	1.5E-05	5.1E-05	--	--
	HDT_MIX	GAP_2	188	0.23	365	68,620	15,835	1.1E-05	3.6E-05	--	--
	HDT_MIX	GAP_3	182	0.36	365	66,430	24,109	1.6E-05	5.5E-05	--	--
	HDT_MIX	GAW	660	0.36	365	240,900	87,057	5.8E-05	2.0E-04	--	--
	HDT_MIX	MVAR	6	0.15	365	2,190	339	2.3E-07	7.8E-07	--	--
	HDT_MIX	US237WB	228	0.27	365	83,220	22,674	1.5E-05	5.2E-05	--	--
	HDT_MIX	US237EB	244	0.67	365	89,060	59,387	4.0E-05	1.4E-04	--	--
	HDT_MIX	ONSITE1	960	0.30	365	350,400	104,634	7.0E-05	2.4E-04	--	--
	HDT_MIX	ONSITE2	270	0.16	365	98,522	15,320	1.0E-05	3.5E-05	--	--
	HDT_MIX	ONSITE3	136	0.15	365	49,467	7,312	4.9E-06	1.7E-05	--	--
	HDT_MIX	ONSITE4	555	0.32	365	202,411	64,021	4.3E-05	1.5E-04	--	--
	HDT_MIX	ONSITE5	176	0.092	365	64,360	5,932	4.0E-06	1.4E-05	--	--
	HDT_MIX	ONSITE6	228	0.21	365	83,325	17,785	1.2E-05	4.1E-05	--	--
	HDT_MIX	ONSITE7	690	0.067	365	251,878	16,969	1.1E-05	3.9E-05	--	--
Passenger Vehicles	LD_MIX	LAF_N_PV	0,972	0.22	365	354,780	79,386	--	4.1E-04	2.2E-05	1.8E-04
	LD_MIX	LAF_S_P2	1,594	0.08	365	581,810	45,400	--	8.3E-06	1.3E-05	1.0E-04
	LD_MIX	LAF_S_P1	1,410	1.3	365	514,650	667,546	--	1.2E-04	1.9E-04	0.0015
	LD_MIX	TAS_W_PV	16,536	0.86	365	6,035,640	5,206,008	--	9.5E-04	1.5E-03	0.012
	LD_MIX	TAS_E_PV	10,700	0.37	365	3,905,500	1,451,441	--	2.7E-04	4.1E-04	0.0032
	LD_MIX	GAP_1_PV	26,263	0.13	365	9,585,995	1,236,192	--	2.3E-04	3.5E-04	0.0028
	LD_MIX	GAP_2_PV	25,641	0.23	365	9,358,965	2,159,706	--	4.1E-04	6.1E-04	0.0048
	LD_MIX	GAP_3_PV	28,420	0.36	365	10,373,300	3,764,717	--	7.9E-04	1.1E-03	0.0084
	LD_MIX	GAW_PV	0,622	0.36	365	227,030	82,044	--	4.5E-05	2.3E-05	1.8E-04
	LD_MIX	MVAR_PV	0,972	0.15	365	354,780	54,945	--	3.5E-05	1.5E-05	1.2E-04
	LD_MIX	US237WPV	12,645	0.27	365	4,615,425	1,257,532	--	2.7E-04	3.5E-04	0.0028
	LD_MIX	US237EPV	13,618	0.67	365	4,970,570	3,314,451	--	6.8E-04	9.3E-04	0.0074

Notes:

1. Daily trip rates were provided by Arup. Truck trip rates assume the warehouse scenario while passenger vehicle trip rates assume the manufacturing scenario for a conservative risk scenario.
2. Offsite and onsite segment lengths were estimated in GIS for each roadway segment within the modeling extent.
3. Annual trips and annual VMT were calculated assuming 365 days per year for trucking operations as assumed by Related.
4. The $PM_{2.5}$ emission rate includes both vehicle engine emission rates and fugitive emission rates. The fugitive emission rate is calculated by using the fugitive $PM_{2.5}$ emission factor from Table 12, which is then multiplied by the percentage of total VMT for each segment. It is assumed that these operational trips occur 24 hours a day, 365 days a year.

Abbreviations:

mi - mile(s)
VMT - vehicle miles travelled
yr - year
DPM - diesel particulate matter
TOG_EXH - Total organic gas from exhaust
TOG_EVAP - Total organic gas from evaporation
TAC - toxic air contaminants
$PM_{2.5}$ - particulate matter less than 2.5 microns

Table 15
Modeling Parameters for Operational Sources
Related Santa Clara
Santa Clara, California

LINE Sources[1,2]

Source	Source Group[4]	Number of Sources	Release Height (m)	Initial Vertical Dimension (m)
Off-site On-road Passenger Vehicles[3]	Multiple	Multiple	1.3	1.21
Off-site On-road Delivery Trucks and TRUs	Multiple	Multiple	3.4	3.16
On-site On-road Delivery Trucks and TRUs	ONSITE1-ONSITE 7	7	3.4	3.16

AREAPOLY Sources[1,5]

Source	Source Group	Number of Sources	Release Height (m)	Initial Vertical Dimension (m)
On-site Delivery Truck TRU Unloading	IDLE01-IDLE10	10	4.0	1.86
On-site Delivery Truck Idling	IDLE01-IDLE10	10	4.0	1.86

POINT Sources[1,6]

Source	Source Group	Number of Sources	Stack Height (m)	Stack Temperature (F)	Stack Velocity (m/s)	Stack Diameter (m)
Emergency Generators	GEN01-GEN10	10	3.66	872	45.3	0.183

Notes:

1. Modeled emission rates for emission sources were unit dispersion factors. For LINE and AREAPOLY sources, modeled emission rates were 1 gram/second divided by the area in meters. For the POINT source generators, the modeled emission rate for each generator was 1 gram/second. The complete AERMOD input file can be found in Appendix B.
2. Delivery trucks and passenger vehicles were modeled as line sources where parameters were obtained from the2022 BAAQMD CEQA Guidelines. TRUs equipped on the delivery trucks are assumed to have the same modeling parameters as truck exhausts.
3. Passenger vehicles dispersion factors were represented with a diurnal pattern based on the hourly VMT data in Santa Clara County from EMFAC2021 to accurately account for air dispersion. The diurnal pattern was incorporated into the model using EMISFACT parameters, which adjusts emission rates throughout the day to reflect higher activity levels during peak traffic periods and lower activity levels during off-peak hours. The EMISFACT scalars are presented in the modeling files.
4. Each of the roadway segments within a 1,000 ft buffer of the Project boundary was modeled as a source group for on-road delivery trucks and passenger vehicles (labeled as "Multiple"). Passenger vehicle sources were labeled with *PV in the AERMOD input files.
5. Delivery trucks idling and TRU unloading were modeled as an area source.
6. Emergency generator source parameters were obtained from the BAAQMD CEQA Guidelines. The emergency generators were modeled assuming activity can occur at any time during the day.

Abbreviations:

BAAQMD - Bay Area Air Quality Management District
F - Fahrenheit
m - meter
m/s - meters per second
TRU - transportation refrigeration unit

References:

BAAQMD. 2022. California Environmental Quality Act Air Quality Guidelines. Available at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines

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Table 16
Exposure Parameters for Project Operations
Related Santa Clara
Santa Clara, California

Population	Receptor Type	Receptor Age Group	Exposure Parameters							
			Daily Breathing Rate (DBR)[1]	Exposure Duration (ED)[2]	Fraction of Time at Home (FAH)[3]	Exposure Frequency (EF)[4]	Averaging Time (AT)	Age Sensitivity Factor[5]	Modeling Adjustment Factor[6]	Intake Factor, Inhalation (IF_{inh})
			[L/kg-day]	[years]	[unitless]	[days/year]	[days]	[unitless]	[unitless]	[m^3/kg-day]
Residents	Residential	3rd Trimester	361	0.25	1.0	350	25,550	10	1	0.012
	Residential	Age 0-<2 Years	1,090	2.0	1.0			10	1	0.30
	Residential	Age 2-<16 Years	572	14	1.0			3	1	0.33
	Residential	Age >16 Years	261	14	0.73			1	1	0.037
Daycare	Daycare	Age 0-<2 Years	1,090	2.0	--			10	1	0.30
	Daycare	Age 2-<16 Years	520	4.0				3	1	0.085
School	School	Age 2-<16 Years	520	7.0		180		3	1	0.077
Recreational	Recreational	Age 0-<2 Years	300	2.0				10	1	0.042
	Recreational	Age 2-<16 Years	130	14				3	1	0.038
	Recreational	Age >16 Years	60	14				1	1	0.0059
Worker	Offsite Worker	Age 16-70 Years	230	25		250		1	1	0.056

Notes:

1. For resident, daycare, school, and worker, daily breathing rates by receptor type and age bin are consistent with Table 34 of Appendix E of the BAAQMD CEQA Guidelines. Daily breathing rates for recreational receptors assume 95th Percentile Eight-Hour Breathing Rates for Moderate Intensity Activities, scaled to 2 hours per day, consistent with the exposure parameters in the 2015 EIR.
2. Annual exposure duration represents one full year. The exposure duration for all years is 1, as the health risk assessment is based on annual emissions. For the construction and operation scenario, residential receptors are assumed to begin the third trimester at the beginning of construction and continue exposure for 30 years after birth; School (K-6) receptor is assumed to be exposed during age 5-12; Daycare receptor is assumed to be exposed during age 0-6. Pre-school receptor is assumed to be exposed during age 2-14. For the operation-only scenario, exposure begins at the start of operations.
3. Fraction of time spent at home is conservatively assumed to be 1 (i.e., 24 hours/day) for age groups from the third trimester to less than 16 years old based on the recommendation from BAAQMD (2023) and OEHHA (OEHHA 2015). The fraction of time at home for adults age 16-30 reflects default OEHHA guidance (OEHHA 2015) as recommended by BAAQMD (2023).
4. Exposure frequency is consistent with the BAAQMD CEQA Guidelines and was determined as follows:
   Residents: reflects default residential exposure frequency from Cal/EPA.
   Daycare/School: reflects default residential exposure frequency for 0-2 age bin, consistent with the BAAQMD CEQA Guidelines, and default worker exposure frequency for 2-16 age bin, assuming a child is at the daycare/school when the parents are at work.
   Recreational: reflects default number of school days per year, assuming 2 hours of exposure each day.
   Worker: reflects default worker exposure frequency, consistent with BAAQMD CEQA Guidelines.
5. Age Sensitive Factors account for an "anticipated special sensitivity to carcinogens" of infants and children as recommended in the OEHHA Technical Support Document and current OEHHA guidance. This is consistent with the BAAQMD CEQA Guidelines.
6. Modeling adjustment factors are calculated based on the methodology from OEHHA's Guidance Manual for Preparation of Health Risk Assessments (2015). Residents are expected to be exposed 24 hours/day and 7 days/week; as a result, the MAF is 1. Operational sources are expected 24 hours/day and 7 days/week; as a result, the MAF is 1 for all receptors.

Calculation:

IF_{inh} = DBR * FAH * EF * ED * CF / AT

CF = 0.001 (m^3/L)

Abbreviations:

AT - averaging time
BAAQMD - Bay Area Air Quality Management District
DBR - daily breathing rate
ED - exposure duration
EF - exposure frequency
FAH - fraction of time at home
IF_{inh} - intake factor
kg - kilogram
L - liter
m^3 - cubic meter
OEHHA - Office of Environmental Health Hazard Assessment

References:

BAAQMD. 2023. California Environmental Quality Act Air Quality Guidelines. Available at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines

OEHHA. 2015. Air Toxics Hot Spots Program Risk Assessment Guidelines. Guidance Manual for Preparation of Health Risk Assessments. February.

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Table 17
Toxicity Values
Related Santa Clara
Santa Clara, California

Chemical[1]	CAS	Cancer Potency Factor $(mg/kg\text{-}day)^{-1}$	Chronic REL ($\mu g/m^3$)
Diesel PM	9901	1.1	5.0
1,3-Butadiene	106990	0.60	2.0
Acetaldehyde	75070	0.010	140
Acrolein	107028	--	0.35
Benzene	71432	0.10	3.0
Ethylbenzene	100414	0.0087	2,000
Formaldehyde	50000	0.021	9.0
Methanol	67561	--	4,000
Naphthalene	91203	0.12	9.0
n-Hexane	110543	--	7,000
Propene	115071	--	3,000
Styrene	100425	--	900
Toluene	108883	--	420
Xylenes	1330207	--	700

Notes:

1. Chemicals presented in this table reflect air toxic contaminants in the proposed fuel types that are expected from on-road truck trips, gasoline vehicle trips, diesel-fueled transportation refrigeration units (TRU), idling at loading dock, and generator operations.

Abbreviations:

$\mu g/m^3$ - micrograms per cubic meter
ARB - [California] Air Resources Board
Cal/EPA - California Environmental Protection Agency
$(mg/kg\text{-}day)^{-1}$ - per milligram per kilogram-day
OEHHA - Office of Environmental Health Hazard Assessment
PM - particulate matter
REL - reference exposure level
TRU - transportation refrigeration unit

Reference:

Cal/EPA. 2023. OEHHA/ARB Consolidated Table of Approved Risk Assessment Health Values. October 6.

FIGURES

Project Site
Onsite Building
Truck Idling and TRU Trailer Unloading
On-Road Truck, Passenger Vehicle, and TRU Sources
Emergency Generators

0 2,500 5,000 Feet

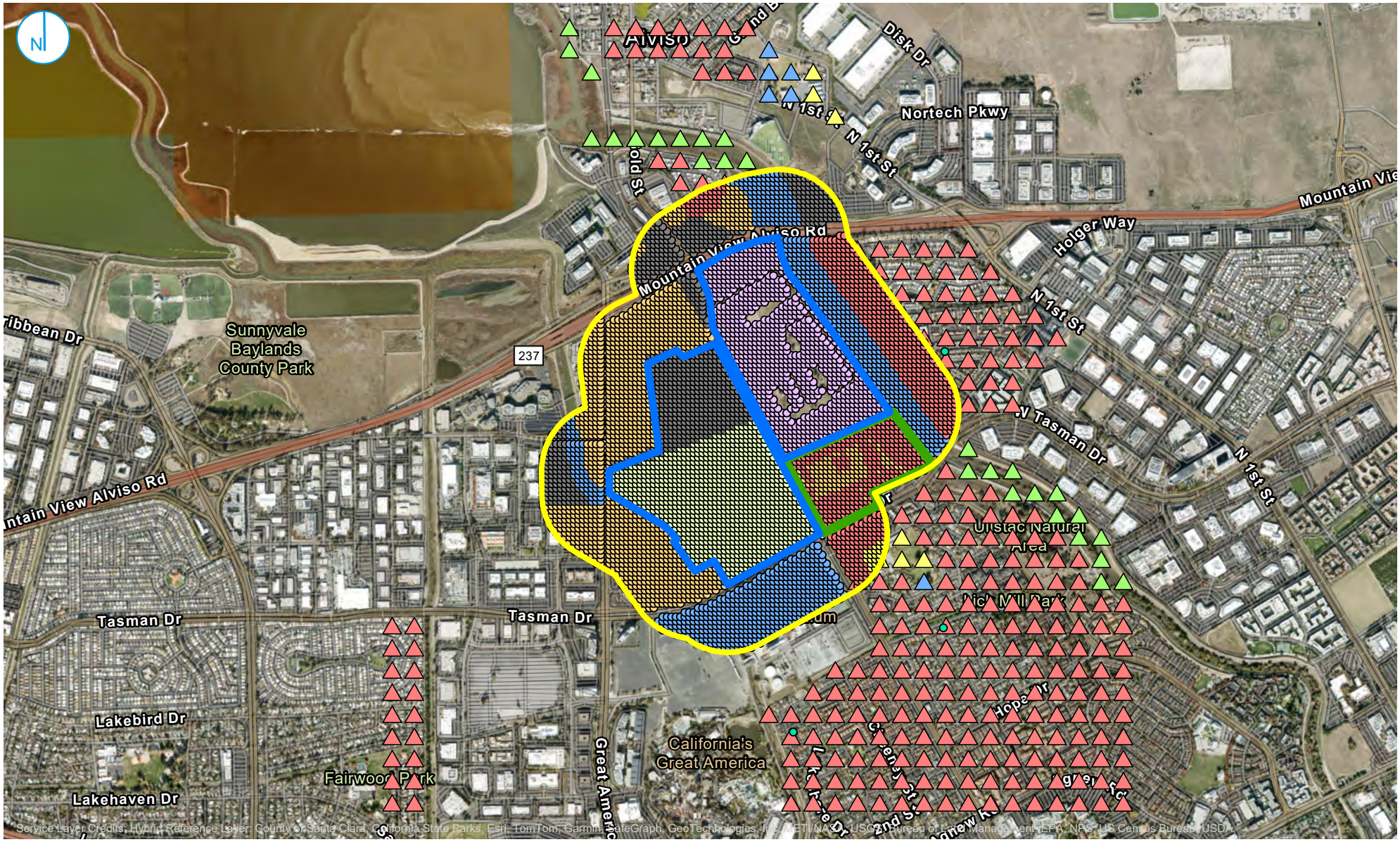
MODELED SOURCES AND VICINITY

Related Santa Clara
Santa Clara, California

FIGURE 01

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL



- Project Site
- 1,000 ft Buffer
- Tasman East

20m x 20m Receptor Grid

- Co-located Residential/Daycare
- Daycare

- Nonsensitive
- Offsite Worker
- Onsite Worker
- Recreational
- Residential
- School

100m x 100m EIR Receptor Grid

- offsite residential
- park
- path
- school

0 2,500 5,000 Feet

PROJECT SITE AND MODELED RECEPTORS

Related Santa Clara
Santa Clara, California

FIGURE 02

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

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APPENDIX A
CALEEMOD OUTPUTS

Related_City Center Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Related_City Center
Operational Year	2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	32.8
Location	37.40977477774611, -121.97206281015863
County	Santa Clara
City	Santa Clara
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1704
EDFZ	1
Electric Utility	Silicon Valley Power
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Condo/Townhouse	1,680	Dwelling Unit	105	1,680,000	0.00	—	5,023	—
Supermarket	50.0	1000sqft	1.15	50,000	0.00	—	—	—

Regional Shopping Center	575	1000sqft	13.2	575,000	0.00	—	—	—
High Turnover (Sit Down Restaurant)	125	1000sqft	2.87	125,000	0.00	—	—	—
Movie Theater (No Matinee)	50.0	1000sqft	1.15	50,000	0.00	—	—	—
General Office Building	4,517	1000sqft	104	4,517,400	0.00	—	—	—
Hotel	700	Room	23.3	567,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Water	W-4	Require Low-Flow Water Fixtures
Water	W-7	Adopt a Water Conservation Strategy
Waste	S-1/S-2	Implement Waste Reduction Plan

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	446	424	222	2,017	5.50	7.46	517	525	7.27	131	138	6,467	636,370	642,837	685	25.6	12,683	680,276
Mit.	446	424	222	2,017	5.50	7.46	517	525	7.27	131	138	3,760	627,390	631,150	411	24.4	12,683	661,375
% Reduced	—	—	—	—	—	—	—	—	—	—	—	42%	1%	2%	40%	5%	—	3%

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	437	414	250	1,897	5.20	7.46	517	525	7.28	131	138	6,467	605,306	611,773	687	27.6	11,505	648,677
Mit.	437	414	250	1,897	5.20	7.46	517	525	7.28	131	138	3,760	596,326	600,086	414	26.3	11,505	629,776
% Reduced	—	—	—	—	—	—	—	—	—	—	—	42%	1%	2%	40%	5%	—	3%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	374	358	170	1,296	3.47	5.24	331	336	5.11	83.9	89.0	6,467	419,718	426,185	680	20.4	11,815	461,093
Mit.	374	358	170	1,296	3.47	5.24	331	336	5.11	83.9	89.0	3,760	410,738	414,498	407	19.2	11,815	442,192
% Reduced	—	—	—	—	—	—	—	—	—	—	—	42%	2%	3%	40%	6%	—	4%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	68.3	65.4	31.0	237	0.63	0.96	60.4	61.4	0.93	15.3	16.2	1,071	69,489	70,560	113	3.38	1,956	76,339
Mit.	68.3	65.4	31.0	237	0.63	0.96	60.4	61.4	0.93	15.3	16.2	623	68,002	68,625	67.3	3.17	1,956	73,210
% Reduced	—	—	—	—	—	—	—	—	—	—	—	42%	2%	3%	40%	6%	—	4%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	269	251	163	1,979	5.13	2.79	517	520	2.61	131	134	—	522,806	522,806	19.7	19.8	1,210	530,418
Area	172	171	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Energy	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	89,835	89,835	12.7	1.08	—	90,475
Water	—	—	—	—	—	—	—	—	—	—	—	1,894	2,682	4,576	195	4.68	—	10,841
Waste	—	—	—	—	—	—	—	—	—	—	—	4,573	0.00	4,573	457	0.00	—	15,999

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Total	446	424	222	2,017	5.50	7.46	517	525	7.27	131	138	6,467	636,370	642,837	685	25.6	12,683	680,276
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	260	241	191	1,859	4.83	2.80	517	520	2.61	131	134	—	491,743	491,743	22.3	21.8	31.4	498,818
Area	172	171	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Energy	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	89,835	89,835	12.7	1.08	—	90,475
Water	—	—	—	—	—	—	—	—	—	—	—	1,894	2,682	4,576	195	4.68	—	10,841
Waste	—	—	—	—	—	—	—	—	—	—	—	4,573	0.00	4,573	457	0.00	—	15,999
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Total	437	414	250	1,897	5.20	7.46	517	525	7.28	131	138	6,467	605,306	611,773	687	27.6	11,505	648,677
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	200	186	127	1,265	3.21	1.88	331	333	1.75	83.9	85.7	—	326,683	326,683	15.7	14.7	341	331,784
Area	170	170	0.41	0.17	< 0.005	0.03	—	0.03	0.03	—	0.03	0.00	519	519	0.01	< 0.005	—	520
Energy	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	89,835	89,835	12.7	1.08	—	90,475
Water	—	—	—	—	—	—	—	—	—	—	—	1,894	2,682	4,576	195	4.68	—	10,841
Waste	—	—	—	—	—	—	—	—	—	—	—	4,573	0.00	4,573	457	0.00	—	15,999
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Total	374	358	170	1,296	3.47	5.24	331	336	5.11	83.9	89.0	6,467	419,718	426,185	680	20.4	11,815	461,093
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	36.4	34.0	23.1	231	0.59	0.34	60.4	60.7	0.32	15.3	15.6	—	54,086	54,086	2.60	2.43	56.5	54,931
Area	31.0	30.9	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	85.9	85.9	< 0.005	< 0.005	—	86.0
Energy	0.88	0.44	7.84	5.65	0.05	0.61	—	0.61	0.61	—	0.61	—	14,873	14,873	2.11	0.18	—	14,979
Water	—	—	—	—	—	—	—	—	—	—	—	314	444	758	32.2	0.78	—	1,795
Waste	—	—	—	—	—	—	—	—	—	—	—	757	0.00	757	75.7	0.00	—	2,649
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,900	1,900
Total	68.3	65.4	31.0	237	0.63	0.96	60.4	61.4	0.93	15.3	16.2	1,071	69,489	70,560	113	3.38	1,956	76,339

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	269	251	163	1,979	5.13	2.79	517	520	2.61	131	134	—	522,806	522,806	19.7	19.8	1,210	530,418
Area	172	171	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Energy	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	81,450	81,450	10.9	0.86	—	81,980
Water	—	—	—	—	—	—	—	—	—	—	—	1,474	2,086	3,560	152	3.64	—	8,435
Waste	—	—	—	—	—	—	—	—	—	—	—	2,286	0.00	2,286	229	0.00	—	7,999
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Total	446	424	222	2,017	5.50	7.46	517	525	7.27	131	138	3,760	627,390	631,150	411	24.4	12,683	661,375
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	260	241	191	1,859	4.83	2.80	517	520	2.61	131	134	—	491,743	491,743	22.3	21.8	31.4	498,818
Area	172	171	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Energy	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	81,450	81,450	10.9	0.86	—	81,980
Water	—	—	—	—	—	—	—	—	—	—	—	1,474	2,086	3,560	152	3.64	—	8,435
Waste	—	—	—	—	—	—	—	—	—	—	—	2,286	0.00	2,286	229	0.00	—	7,999
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Total	437	414	250	1,897	5.20	7.46	517	525	7.28	131	138	3,760	596,326	600,086	414	26.3	11,505	629,776
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	200	186	127	1,265	3.21	1.88	331	333	1.75	83.9	85.7	—	326,683	326,683	15.7	14.7	341	331,784
Area	170	170	0.41	0.17	< 0.005	0.03	—	0.03	0.03	—	0.03	0.00	519	519	0.01	< 0.005	—	520
Energy	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	81,450	81,450	10.9	0.86	—	81,980
Water	—	—	—	—	—	—	—	—	—	—	—	1,474	2,086	3,560	152	3.64	—	8,435
Waste	—	—	—	—	—	—	—	—	—	—	—	2,286	0.00	2,286	229	0.00	—	7,999

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Total	374	358	170	1,296	3.47	5.24	331	336	5.11	83.9	89.0	3,760	410,738	414,498	407	19.2	11,815	442,192
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	36.4	34.0	23.1	231	0.59	0.34	60.4	60.7	0.32	15.3	15.6	—	54,086	54,086	2.60	2.43	56.5	54,931
Area	31.0	30.9	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	85.9	85.9	< 0.005	< 0.005	—	86.0
Energy	0.88	0.44	7.84	5.65	0.05	0.61	—	0.61	0.61	—	0.61	—	13,485	13,485	1.81	0.14	—	13,573
Water	—	—	—	—	—	—	—	—	—	—	—	244	345	589	25.1	0.60	—	1,396
Waste	—	—	—	—	—	—	—	—	—	—	—	379	0.00	379	37.8	0.00	—	1,324
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,900	1,900
Total	68.3	65.4	31.0	237	0.63	0.96	60.4	61.4	0.93	15.3	16.2	623	68,002	68,625	67.3	3.17	1,956	73,210

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	32.5	30.3	18.8	225	0.57	0.32	57.6	57.9	0.29	14.6	14.9	—	58,444	58,444	2.31	2.27	135	59,314
Supermarket	23.6	21.8	15.7	195	0.52	0.28	53.0	53.3	0.26	13.4	13.7	—	53,310	53,310	1.83	1.93	124	54,054
Regional Shopping Center	74.4	70.5	36.2	412	0.96	0.55	94.6	95.2	0.51	24.0	24.5	—	97,436	97,436	4.80	4.29	221	99,055

High Turnover (Sit Down Restaurant)	81.0	74.7	53.7	668	1.79	0.96	182	183	0.90	46.1	46.9	—	182,734	182,734	6.28	6.61	425	185,286
Movie Theater (No Matinee)	0.93	0.86	0.62	7.71	0.02	0.01	2.10	2.11	0.01	0.53	0.54	—	2,110	2,110	0.07	0.08	4.91	2,139
General Office Building	39.9	36.9	26.5	329	0.88	0.47	89.6	90.1	0.44	22.7	23.2	—	90,104	90,104	3.10	3.26	210	91,362
Hotel	17.1	15.8	11.4	141	0.38	0.20	38.4	38.6	0.19	9.75	9.93	—	38,668	38,668	1.33	1.40	89.9	39,208
Total	269	251	163	1,979	5.13	2.79	517	520	2.61	131	134	—	522,806	522,806	19.7	19.8	1,210	530,418
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	31.4	29.1	22.0	214	0.54	0.32	57.6	57.9	0.29	14.6	14.9	—	54,986	54,986	2.64	2.50	3.50	55,800
Supermarket	22.8	20.9	18.3	179	0.49	0.28	53.0	53.3	0.26	13.4	13.7	—	50,119	50,119	2.04	2.11	3.21	50,802
Regional Shopping Center	71.8	67.5	42.4	413	0.90	0.55	94.6	95.2	0.51	24.0	24.5	—	91,797	91,797	5.62	4.73	5.74	93,352
High Turnover (Sit Down Restaurant)	78.3	71.8	62.9	614	1.69	0.96	182	183	0.90	46.1	47.0	—	171,795	171,795	7.00	7.24	11.0	174,139
Movie Theater (No Matinee)	0.90	0.83	0.73	7.08	0.02	0.01	2.10	2.11	0.01	0.53	0.54	—	1,983	1,983	0.08	0.08	0.13	2,010

General Office Building	38.6	35.4	31.0	303	0.83	0.47	89.6	90.1	0.44	22.7	23.2	—	84,710	84,710	3.45	3.57	5.43	85,866
Hotel	16.6	15.2	13.3	130	0.36	0.20	38.4	38.6	0.19	9.75	9.94	—	36,353	36,353	1.48	1.53	2.33	36,849
Total	260	241	191	1,859	4.83	2.80	517	520	2.61	131	134	—	491,743	491,743	22.3	21.8	31.4	498,818
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	5.05	4.70	3.38	33.9	0.09	0.05	9.21	9.27	0.05	2.34	2.38	—	8,217	8,217	0.37	0.36	8.63	8,342
Supermarket	2.62	2.45	1.62	16.2	0.04	0.02	4.16	4.18	0.02	1.05	1.08	—	3,729	3,729	0.18	0.17	3.89	3,789
Regional Shopping Center	10.1	9.55	5.52	54.2	0.12	0.07	12.4	12.4	0.07	3.13	3.20	—	11,248	11,248	0.67	0.57	11.6	11,446
High Turnover (Sit Down Restaurant)	10.4	9.75	6.28	62.4	0.15	0.09	15.7	15.8	0.08	3.98	4.06	—	14,108	14,108	0.72	0.66	14.7	14,336
Movie Theater (No Matinee)	0.13	0.12	0.10	1.04	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	273	273	0.01	0.01	0.29	276
General Office Building	5.27	4.83	4.03	40.9	0.12	0.07	12.1	12.2	0.06	3.07	3.13	—	10,708	10,708	0.41	0.43	11.3	10,859
Hotel	2.85	2.62	2.18	22.2	0.06	0.04	6.56	6.60	0.03	1.66	1.70	—	5,803	5,803	0.22	0.23	6.14	5,884
Total	36.4	34.0	23.1	231	0.59	0.34	60.4	60.7	0.32	15.3	15.6	—	54,086	54,086	2.60	2.43	56.5	54,931

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	32.5	30.3	18.8	225	0.57	0.32	57.6	57.9	0.29	14.6	14.9	—	58,444	58,444	2.31	2.27	135	59,314
Supermarket	23.6	21.8	15.7	195	0.52	0.28	53.0	53.3	0.26	13.4	13.7	—	53,310	53,310	1.83	1.93	124	54,054
Regional Shopping Center	74.4	70.5	36.2	412	0.96	0.55	94.6	95.2	0.51	24.0	24.5	—	97,436	97,436	4.80	4.29	221	99,055
High Turnover (Sit Down Restaurant)	81.0	74.7	53.7	668	1.79	0.96	182	183	0.90	46.1	46.9	—	182,734	182,734	6.28	6.61	425	185,286
Movie Theater (No Matinee)	0.93	0.86	0.62	7.71	0.02	0.01	2.10	2.11	0.01	0.53	0.54	—	2,110	2,110	0.07	0.08	4.91	2,139
General Office Building	39.9	36.9	26.5	329	0.88	0.47	89.6	90.1	0.44	22.7	23.2	—	90,104	90,104	3.10	3.26	210	91,362
Hotel	17.1	15.8	11.4	141	0.38	0.20	38.4	38.6	0.19	9.75	9.93	—	38,668	38,668	1.33	1.40	89.9	39,208
Total	269	251	163	1,979	5.13	2.79	517	520	2.61	131	134	—	522,806	522,806	19.7	19.8	1,210	530,418
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	31.4	29.1	22.0	214	0.54	0.32	57.6	57.9	0.29	14.6	14.9	—	54,986	54,986	2.64	2.50	3.50	55,800
Supermarket	22.8	20.9	18.3	179	0.49	0.28	53.0	53.3	0.26	13.4	13.7	—	50,119	50,119	2.04	2.11	3.21	50,802

Regional Shopping	71.8	67.5	42.4	413	0.90	0.55	94.6	95.2	0.51	24.0	24.5	—	91,797	91,797	5.62	4.73	5.74	93,352
High Turnover (Sit Down Restaurant)	78.3	71.8	62.9	614	1.69	0.96	182	183	0.90	46.1	47.0	—	171,795	171,795	7.00	7.24	11.0	174,139
Movie Theater (No Matinee)	0.90	0.83	0.73	7.08	0.02	0.01	2.10	2.11	0.01	0.53	0.54	—	1,983	1,983	0.08	0.08	0.13	2,010
General Office Building	38.6	35.4	31.0	303	0.83	0.47	89.6	90.1	0.44	22.7	23.2	—	84,710	84,710	3.45	3.57	5.43	85,866
Hotel	16.6	15.2	13.3	130	0.36	0.20	38.4	38.6	0.19	9.75	9.94	—	36,353	36,353	1.48	1.53	2.33	36,849
Total	260	241	191	1,859	4.83	2.80	517	520	2.61	131	134	—	491,743	491,743	22.3	21.8	31.4	498,818
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	5.05	4.70	3.38	33.9	0.09	0.05	9.21	9.27	0.05	2.34	2.38	—	8,217	8,217	0.37	0.36	8.63	8,342
Supermarket	2.62	2.45	1.62	16.2	0.04	0.02	4.16	4.18	0.02	1.05	1.08	—	3,729	3,729	0.18	0.17	3.89	3,789
Regional Shopping Center	10.1	9.55	5.52	54.2	0.12	0.07	12.4	12.4	0.07	3.13	3.20	—	11,248	11,248	0.67	0.57	11.6	11,446
High Turnover (Sit Down Restaurant)	10.4	9.75	6.28	62.4	0.15	0.09	15.7	15.8	0.08	3.98	4.06	—	14,108	14,108	0.72	0.66	14.7	14,336
Movie Theater (No Matinee)	0.13	0.12	0.10	1.04	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	273	273	0.01	0.01	0.29	276

General Office Building	5.27	4.83	4.03	40.9	0.12	0.07	12.1	12.2	0.06	3.07	3.13	—	10,708	10,708	0.41	0.43	11.3	10,859
Hotel	2.85	2.62	2.18	22.2	0.06	0.04	6.56	6.60	0.03	1.66	1.70	—	5,803	5,803	0.22	0.23	6.14	5,884
Total	36.4	34.0	23.1	231	0.59	0.34	60.4	60.7	0.32	15.3	15.6	—	54,086	54,086	2.60	2.43	56.5	54,931

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	3,009	3,009	0.65	0.08	—	3,049
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.23	0.03	—	1,093
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	2,059	2,059	0.44	0.05	—	2,086
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	2,377	2,377	0.51	0.06	—	2,408
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	229	229	0.05	0.01	—	232

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	27,293	27,293	5.89	0.71	—	27,653
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,570	1,570	0.34	0.04	—	1,591
Total	—	—	—	—	—	—	—	—	—	—	—	—	37,615	37,615	8.12	0.98	—	38,111
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	3,009	3,009	0.65	0.08	—	3,049
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.23	0.03	—	1,093
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	2,059	2,059	0.44	0.05	—	2,086
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	2,377	2,377	0.51	0.06	—	2,408
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	229	229	0.05	0.01	—	232
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	27,293	27,293	5.89	0.71	—	27,653
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,570	1,570	0.34	0.04	—	1,591
Total	—	—	—	—	—	—	—	—	—	—	—	—	37,615	37,615	8.12	0.98	—	38,111
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	498	498	0.11	0.01	—	505

Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.04	< 0.005	—	181
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	341	341	0.07	0.01	—	345
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	393	393	0.08	0.01	—	399
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	37.8	37.8	0.01	< 0.005	—	38.3
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	4,519	4,519	0.98	0.12	—	4,578
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	260	260	0.06	0.01	—	263
Total	—	—	—	—	—	—	—	—	—	—	—	—	6,228	6,228	1.34	0.16	—	6,310

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	2,136	2,136	0.46	0.06	—	2,164
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	766	766	0.17	0.02	—	776

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,462	1,462	0.32	0.04	—	1,481
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,687	1,687	0.36	0.04	—	1,710
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	162	162	0.04	< 0.005	—	164
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	21,902	21,902	4.73	0.57	—	22,190
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,115	1,115	0.24	0.03	—	1,130
Total	—	—	—	—	—	—	—	—	—	—	—	—	29,230	29,230	6.31	0.76	—	29,615
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	2,136	2,136	0.46	0.06	—	2,164
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	766	766	0.17	0.02	—	776
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,462	1,462	0.32	0.04	—	1,481
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,687	1,687	0.36	0.04	—	1,710

Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	162	162	0.04	< 0.005	—	164
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	21,902	21,902	4.73	0.57	—	22,190
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,115	1,115	0.24	0.03	—	1,130
Total	—	—	—	—	—	—	—	—	—	—	—	—	29,230	29,230	6.31	0.76	—	29,615
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	354	354	0.08	0.01	—	358
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	127	127	0.03	< 0.005	—	128
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	242	242	0.05	0.01	—	245
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	279	279	0.06	0.01	—	283
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	26.9	26.9	0.01	< 0.005	—	27.2
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	3,626	3,626	0.78	0.09	—	3,674
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	185	185	0.04	< 0.005	—	187
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,839	4,839	1.04	0.13	—	4,903

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.45	0.73	12.4	5.28	0.08	1.00	—	1.00	1.00	—	1.00	—	15,735	15,735	1.39	0.03	—	15,779
Supermarket	0.04	0.02	0.36	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	434	434	0.04	< 0.005	—	435
Regional Shopping Center	0.10	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	—	1,050	1,050	0.09	< 0.005	—	1,053
High Turnover (Sit Down Restaurant)	0.50	0.25	4.53	3.81	0.03	0.34	—	0.34	0.34	—	0.34	—	5,405	5,405	0.48	0.01	—	5,420
Movie Theater (No Matinee)	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	702	702	0.06	< 0.005	—	704
General Office Building	2.16	1.08	19.6	16.5	0.12	1.49	—	1.49	1.49	—	1.49	—	23,425	23,425	2.07	0.04	—	23,490
Hotel	0.50	0.25	4.58	3.85	0.03	0.35	—	0.35	0.35	—	0.35	—	5,469	5,469	0.48	0.01	—	5,484
Total	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	52,220	52,220	4.62	0.10	—	52,364
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.45	0.73	12.4	5.28	0.08	1.00	—	1.00	1.00	—	1.00	—	15,735	15,735	1.39	0.03	—	15,779

Supermarket	0.04	0.02	0.36	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	434	434	0.04	< 0.005	—	435
Regional Shopping Center	0.10	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	—	1,050	1,050	0.09	< 0.005	—	1,053
High Turnover (Sit Down Restaurant)	0.50	0.25	4.53	3.81	0.03	0.34	—	0.34	0.34	—	0.34	—	5,405	5,405	0.48	0.01	—	5,420
Movie Theater (No Matinee)	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	702	702	0.06	< 0.005	—	704
General Office Building	2.16	1.08	19.6	16.5	0.12	1.49	—	1.49	1.49	—	1.49	—	23,425	23,425	2.07	0.04	—	23,490
Hotel	0.50	0.25	4.58	3.85	0.03	0.35	—	0.35	0.35	—	0.35	—	5,469	5,469	0.48	0.01	—	5,484
Total	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	52,220	52,220	4.62	0.10	—	52,364
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.26	0.13	2.26	0.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,605	2,605	0.23	< 0.005	—	2,612
Supermarket	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	71.8	71.8	0.01	< 0.005	—	72.0
Regional Shopping Center	0.02	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	174	174	0.02	< 0.005	—	174
High Turnover (Sit Down Restaurant)	0.09	0.05	0.83	0.69	< 0.005	0.06	—	0.06	0.06	—	0.06	—	895	895	0.08	< 0.005	—	897

Movie Theater (No Matinee)	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	116
General Office Building	0.39	0.20	3.58	3.01	0.02	0.27	—	0.27	0.27	—	0.27	—	3,878	3,878	0.34	0.01	—	3,889
Hotel	0.09	0.05	0.84	0.70	0.01	0.06	—	0.06	0.06	—	0.06	—	905	905	0.08	< 0.005	—	908
Total	0.88	0.44	7.84	5.65	0.05	0.61	—	0.61	0.61	—	0.61	—	8,646	8,646	0.77	0.02	—	8,670

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.45	0.73	12.4	5.28	0.08	1.00	—	1.00	1.00	—	1.00	—	15,735	15,735	1.39	0.03	—	15,779
Supermarket	0.04	0.02	0.36	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	434	434	0.04	< 0.005	—	435
Regional Shopping Center	0.10	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	—	1,050	1,050	0.09	< 0.005	—	1,053
High Turnover (Sit Down Restaurant)	0.50	0.25	4.53	3.81	0.03	0.34	—	0.34	0.34	—	0.34	—	5,405	5,405	0.48	0.01	—	5,420
Movie Theater (No Matinee)	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	702	702	0.06	< 0.005	—	704

General Office Building	2.16	1.08	19.6	16.5	0.12	1.49	—	1.49	1.49	—	1.49	—	23,425	23,425	2.07	0.04	—	23,490
Hotel	0.50	0.25	4.58	3.85	0.03	0.35	—	0.35	0.35	—	0.35	—	5,469	5,469	0.48	0.01	—	5,484
Total	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	52,220	52,220	4.62	0.10	—	52,364
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	1.45	0.73	12.4	5.28	0.08	1.00	—	1.00	1.00	—	1.00	—	15,735	15,735	1.39	0.03	—	15,779
Supermarket	0.04	0.02	0.36	0.31	< 0.005	0.03	—	0.03	0.03	—	0.03	—	434	434	0.04	< 0.005	—	435
Regional Shopping Center	0.10	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	—	1,050	1,050	0.09	< 0.005	—	1,053
High Turnover (Sit Down Restaurant)	0.50	0.25	4.53	3.81	0.03	0.34	—	0.34	0.34	—	0.34	—	5,405	5,405	0.48	0.01	—	5,420
Movie Theater (No Matinee)	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	702	702	0.06	< 0.005	—	704
General Office Building	2.16	1.08	19.6	16.5	0.12	1.49	—	1.49	1.49	—	1.49	—	23,425	23,425	2.07	0.04	—	23,490
Hotel	0.50	0.25	4.58	3.85	0.03	0.35	—	0.35	0.35	—	0.35	—	5,469	5,469	0.48	0.01	—	5,484
Total	4.81	2.41	43.0	31.0	0.26	3.33	—	3.33	3.33	—	3.33	—	52,220	52,220	4.62	0.10	—	52,364
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	0.26	0.13	2.26	0.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,605	2,605	0.23	< 0.005	—	2,612

Supermarket	0.01	< 0.005	0.07	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	71.8	71.8	0.01	< 0.005	—	72.0
Regional Shopping Center	0.02	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	174	174	0.02	< 0.005	—	174
High Turnover (Sit Down Restaurant)	0.09	0.05	0.83	0.69	< 0.005	0.06	—	0.06	0.06	—	0.06	—	895	895	0.08	< 0.005	—	897
Movie Theater (No Matinee)	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	116
General Office Building	0.39	0.20	3.58	3.01	0.02	0.27	—	0.27	0.27	—	0.27	—	3,878	3,878	0.34	0.01	—	3,889
Hotel	0.09	0.05	0.84	0.70	0.01	0.06	—	0.06	0.06	—	0.06	—	905	905	0.08	< 0.005	—	908
Total	0.88	0.44	7.84	5.65	0.05	0.61	—	0.61	0.61	—	0.61	—	8,646	8,646	0.77	0.02	—	8,670

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.94	0.97	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Consumer Products	148	148	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	21.3	21.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	172	171	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.94	0.97	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Consumer Products	148	148	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	21.3	21.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	172	171	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	85.9	85.9	< 0.005	< 0.005	—	86.0
Consumer Products	27.1	27.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	3.89	3.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	31.0	30.9	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	85.9	85.9	< 0.005	< 0.005	—	86.0

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Hearths	1.94	0.97	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Consumer Products	148	148	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	21.3	21.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	172	171	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.94	0.97	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Consumer Products	148	148	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	21.3	21.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	172	171	16.6	7.06	0.11	1.34	—	1.34	1.34	—	1.34	0.00	21,047	21,047	0.40	0.04	—	21,069
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01	< 0.005	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	85.9	85.9	< 0.005	< 0.005	—	86.0
Consumer Products	27.1	27.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	3.89	3.89	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	31.0	30.9	0.07	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	85.9	85.9	< 0.005	< 0.005	—	86.0

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	117	165	282	12.0	0.29	—	668
Supermarket	—	—	—	—	—	—	—	—	—	—	—	11.8	16.7	28.5	1.21	0.03	—	67.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	81.6	116	197	8.39	0.20	—	467
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	72.7	103	176	7.48	0.18	—	416
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	38.5	54.5	93.0	3.96	0.10	—	220
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1,539	2,178	3,717	158	3.81	—	8,807
Hotel	—	—	—	—	—	—	—	—	—	—	—	34.0	48.2	82.2	3.50	0.08	—	195
Total	—	—	—	—	—	—	—	—	—	—	—	1,894	2,682	4,576	195	4.68	—	10,841
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	—	—	—	—	—	—	—	—	—	—	—	117	165	282	12.0	0.29	—	668
Supermarket	—	—	—	—	—	—	—	—	—	—	—	11.8	16.7	28.5	1.21	0.03	—	67.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	81.6	116	197	8.39	0.20	—	467
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	72.7	103	176	7.48	0.18	—	416
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	38.5	54.5	93.0	3.96	0.10	—	220
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1,539	2,178	3,717	158	3.81	—	8,807
Hotel	—	—	—	—	—	—	—	—	—	—	—	34.0	48.2	82.2	3.50	0.08	—	195
Total	—	—	—	—	—	—	—	—	—	—	—	1,894	2,682	4,576	195	4.68	—	10,841
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	19.3	27.4	46.7	1.99	0.05	—	111
Supermarket	—	—	—	—	—	—	—	—	—	—	—	1.96	2.77	4.72	0.20	< 0.005	—	11.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	13.5	19.1	32.6	1.39	0.03	—	77.3
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	12.0	17.0	29.1	1.24	0.03	—	68.9

Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	6.37	9.02	15.4	0.66	0.02	—	36.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	255	361	615	26.2	0.63	—	1,458
Hotel	—	—	—	—	—	—	—	—	—	—	—	5.63	7.98	13.6	0.58	0.01	—	32.2
Total	—	—	—	—	—	—	—	—	—	—	—	314	444	758	32.2	0.78	—	1,795

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	90.8	129	219	9.34	0.22	—	520
Supermarket	—	—	—	—	—	—	—	—	—	—	—	9.61	13.6	23.2	0.99	0.02	—	55.0
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	63.6	90.1	154	6.55	0.16	—	364
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	56.7	80.3	137	5.83	0.14	—	325
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	30.0	42.5	72.5	3.09	0.07	—	172

General Office Building	—	—	—	—	—	—	—	—	—	—	—	1,196	1,694	2,890	123	2.96	—	6,848
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.5	37.5	64.0	2.72	0.07	—	152
Total	—	—	—	—	—	—	—	—	—	—	—	1,474	2,086	3,560	152	3.64	—	8,435
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	90.8	129	219	9.34	0.22	—	520
Supermarket	—	—	—	—	—	—	—	—	—	—	—	9.61	13.6	23.2	0.99	0.02	—	55.0
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	63.6	90.1	154	6.55	0.16	—	364
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	56.7	80.3	137	5.83	0.14	—	325
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	30.0	42.5	72.5	3.09	0.07	—	172
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1,196	1,694	2,890	123	2.96	—	6,848
Hotel	—	—	—	—	—	—	—	—	—	—	—	26.5	37.5	64.0	2.72	0.07	—	152
Total	—	—	—	—	—	—	—	—	—	—	—	1,474	2,086	3,560	152	3.64	—	8,435
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	15.0	21.3	36.3	1.55	0.04	—	86.0

Supermarket	—	—	—	—	—	—	—	—	—	—	—	1.59	2.25	3.84	0.16	< 0.005	—	9.10
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	10.5	14.9	25.5	1.08	0.03	—	60.3
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	9.39	13.3	22.7	0.97	0.02	—	53.7
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	4.97	7.03	12.0	0.51	0.01	—	28.4
General Office Building	—	—	—	—	—	—	—	—	—	—	—	198	280	479	20.4	0.49	—	1,134
Hotel	—	—	—	—	—	—	—	—	—	—	—	4.38	6.21	10.6	0.45	0.01	—	25.1
Total	—	—	—	—	—	—	—	—	—	—	—	244	345	589	25.1	0.60	—	1,396

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	669	0.00	669	66.9	0.00	—	2,342
Supermarket	—	—	—	—	—	—	—	—	—	—	—	152	0.00	152	15.2	0.00	—	532

Regiona Shopping Center	—	—	—	—	—	—	—	—	—	—	—	325	0.00	325	32.5	0.00	—	1,138
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	802	0.00	802	80.1	0.00	—	2,805
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	537
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2,264	0.00	2,264	226	0.00	—	7,922
Hotel	—	—	—	—	—	—	—	—	—	—	—	207	0.00	207	20.6	0.00	—	723
Total	—	—	—	—	—	—	—	—	—	—	—	4,573	0.00	4,573	457	0.00	—	15,999
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	669	0.00	669	66.9	0.00	—	2,342
Supermarket	—	—	—	—	—	—	—	—	—	—	—	152	0.00	152	15.2	0.00	—	532
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	325	0.00	325	32.5	0.00	—	1,138
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	802	0.00	802	80.1	0.00	—	2,805

Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	154	0.00	154	15.4	0.00	—	537
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2,264	0.00	2,264	226	0.00	—	7,922
Hotel	—	—	—	—	—	—	—	—	—	—	—	207	0.00	207	20.6	0.00	—	723
Total	—	—	—	—	—	—	—	—	—	—	—	4,573	0.00	4,573	457	0.00	—	15,999
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	111	0.00	111	11.1	0.00	—	388
Supermarket	—	—	—	—	—	—	—	—	—	—	—	25.2	0.00	25.2	2.51	0.00	—	88.0
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	53.9	0.00	53.9	5.38	0.00	—	188
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	133	0.00	133	13.3	0.00	—	464
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	25.4	0.00	25.4	2.54	0.00	—	89.0
General Office Building	—	—	—	—	—	—	—	—	—	—	—	375	0.00	375	37.5	0.00	—	1,312
Hotel	—	—	—	—	—	—	—	—	—	—	—	34.2	0.00	34.2	3.42	0.00	—	120
Total	—	—	—	—	—	—	—	—	—	—	—	757	0.00	757	75.7	0.00	—	2,649

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,171
Supermarket	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	163	0.00	163	16.3	0.00	—	569
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	401	0.00	401	40.1	0.00	—	1,402
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	76.8	0.00	76.8	7.68	0.00	—	269
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1,132	0.00	1,132	113	0.00	—	3,961
Hotel	—	—	—	—	—	—	—	—	—	—	—	103	0.00	103	10.3	0.00	—	361
Total	—	—	—	—	—	—	—	—	—	—	—	2,286	0.00	2,286	229	0.00	—	7,999
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	335	0.00	335	33.5	0.00	—	1,171

Supermarket	—	—	—	—	—	—	—	—	—	—	—	76.0	0.00	76.0	7.59	0.00	—	266
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	163	0.00	163	16.3	0.00	—	569
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	401	0.00	401	40.1	0.00	—	1,402
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	76.8	0.00	76.8	7.68	0.00	—	269
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1,132	0.00	1,132	113	0.00	—	3,961
Hotel	—	—	—	—	—	—	—	—	—	—	—	103	0.00	103	10.3	0.00	—	361
Total	—	—	—	—	—	—	—	—	—	—	—	2,286	0.00	2,286	229	0.00	—	7,999
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	55.4	0.00	55.4	5.54	0.00	—	194
Supermarket	—	—	—	—	—	—	—	—	—	—	—	12.6	0.00	12.6	1.26	0.00	—	44.0
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	26.9	0.00	26.9	2.69	0.00	—	94.2
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	66.4	0.00	66.4	6.63	0.00	—	232

Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	12.7	0.00	12.7	1.27	0.00	—	44.5
General Office Building	—	—	—	—	—	—	—	—	—	—	—	187	0.00	187	18.7	0.00	—	656
Hotel	—	—	—	—	—	—	—	—	—	—	—	17.1	0.00	17.1	1.71	0.00	—	59.8
Total	—	—	—	—	—	—	—	—	—	—	—	379	0.00	379	37.8	0.00	—	1,324

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.0	12.0
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,366	10,366
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.76	2.76
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	195	195

Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.0	11.0
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	886	886
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.0	12.0
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,366	10,366
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.76	2.76
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	195	195
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.0	11.0
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	886	886
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Condo/T	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.99	1.99
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,716	1,716
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.4	32.4
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.82	1.82
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	147	147
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,900	1,900

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.0	12.0
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,366	10,366

Regional	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.76	2.76
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	195	195
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.0	11.0
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	886	886
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.0	12.0
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10,366	10,366
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.76	2.76
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	195	195
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.31	0.31

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.0	11.0
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	886	886
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11,474	11,474
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.99	1.99
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,716	1,716
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.46	0.46
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.4	32.4
Movie Theater (No Matinee)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.05	0.05
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.82	1.82
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	147	147
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,900	1,900

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipm Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	10,433	11,609	8,954	3,792,204	73,439	81,718	63,033	26,694,391
Supermarket	4,740	7,885	7,390	2,032,216	17,065	75,149	70,431	12,040,003
Regional Shopping Center	23,328	28,503	13,041	8,248,087	98,206	134,177	61,391	35,801,076
High Turnover (Sit Down Restaurant)	21,255	23,191	27,026	8,159,966	78,530	221,040	257,592	45,431,075
Movie Theater (No Matinee)	246	312	258	93,701	2,340	2,974	2,454	893,078
General Office Building	13,326	3,027	949	3,681,649	127,016	28,848	9,042	35,090,461
Hotel	5,719	5,600	4,067	1,995,090	54,509	53,375	38,763	19,015,564

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Condo/Townhouse	10,433	11,609	8,954	3,792,204	73,439	81,718	63,033	26,694,391
Supermarket	4,740	7,885	7,390	2,032,216	17,065	75,149	70,431	12,040,003
Regional Shopping Center	23,328	28,503	13,041	8,248,087	98,206	134,177	61,391	35,801,076
High Turnover (Sit Down Restaurant)	21,255	23,191	27,026	8,159,966	78,530	221,040	257,592	45,431,075
Movie Theater (No Matinee)	246	312	258	93,701	2,340	2,974	2,454	893,078
General Office Building	13,326	3,027	949	3,681,649	127,016	28,848	9,042	35,090,461
Hotel	5,719	5,600	4,067	1,995,090	54,509	53,375	38,763	19,015,564

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	857
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	823
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0

Pellet Wood Stoves	0

5.10.1.2. Mitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	857
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	823
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
3402000	1,134,000	8,826,600	2,942,200	462,309

5.10.3. Landscape Equipment

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.10.4. Landscape Equipment - Mitigated

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	7,181,143	153	0.0330	0.0040	49,097,309
Supermarket	2,574,441	153	0.0330	0.0040	1,354,045
Regional Shopping Center	4,913,359	153	0.0330	0.0040	3,276,680
High Turnover (Sit Down Restaurant)	5,672,351	153	0.0330	0.0040	16,865,116
Movie Theater (No Matinee)	545,507	153	0.0330	0.0040	2,189,455
General Office Building	65,140,908	153	0.0330	0.0040	73,091,532
Hotel	3,747,773	153	0.0330	0.0040	17,065,033

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Condo/Townhouse	5,098,611	153	0.0330	0.0040	49,097,309
Supermarket	1,827,853	153	0.0330	0.0040	1,354,045
Regional Shopping Center	3,488,485	153	0.0330	0.0040	3,276,680
High Turnover (Sit Down Restaurant)	4,027,369	153	0.0330	0.0040	16,865,116
Movie Theater (No Matinee)	387,310	153	0.0330	0.0040	2,189,455
General Office Building	52,272,517	153	0.0330	0.0040	73,091,532
Hotel	2,660,919	153	0.0330	0.0040	17,065,033

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)

Condo/Townhouse	60,927,552	0.00
Supermarket	6,163,411	0.00
Regional Shopping Center	42,591,700	0.00
High Turnover (Sit Down Restaurant)	37,941,714	0.00
Movie Theater (No Matinee)	20,080,073	0.00
General Office Building	802,894,433	0.00
Hotel	17,756,739	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Condo/Townhouse	47,377,264	0.00
Supermarket	5,013,442	0.00
Regional Shopping Center	33,211,304	0.00
High Turnover (Sit Down Restaurant)	29,585,431	0.00
Movie Theater (No Matinee)	15,657,638	0.00
General Office Building	624,330,711	0.00
Hotel	13,817,229	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	1,242	—
Supermarket	282	—
Regional Shopping Center	604	—
High Turnover (Sit Down Restaurant)	1,487	—
Movie Theater (No Matinee)	285	—
General Office Building	4,201	—

Hotel	383	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Condo/Townhouse	621	—
Supermarket	141	—
Regional Shopping Center	302	—
High Turnover (Sit Down Restaurant)	744	—
Movie Theater (No Matinee)	142	—
General Office Building	2,101	—
Hotel	192	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Supermarket	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Supermarket	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00

High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Movie Theater (No Matinee)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Movie Theater (No Matinee)	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Movie Theater (No Matinee)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

Supermarket	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Supermarket	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Movie Theater (No Matinee)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Movie Theater (No Matinee)	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Movie Theater (No Matinee)	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.2	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm

Sea Level Rise	—	meters of inundation depth
Wildfire	10.5	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A

Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	16.8
AQ-PM	19.6
AQ-DPM	73.9
Drinking Water	50.2
Lead Risk Housing	12.0
Pesticides	0.00
Toxic Releases	38.1
Traffic	88.8
Effect Indicators	—

CleanUp Sites	99.3
Groundwater	93.5
Haz Waste Facilities/Generators	96.1
Impaired Water Bodies	43.8
Solid Waste	75.7
Sensitive Population	—
Asthma	17.8
Cardio-vascular	31.2
Low Birth Weights	62.9
Socioeconomic Factor Indicators	—
Education	26.9
Housing	25.3
Linguistic	48.7
Poverty	14.7
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	68.7925061
Employed	79.36609778
Median HI	89.15693571
Education	—
Bachelor's or higher	88.31002181
High school enrollment	100
Preschool enrollment	64.42961632
Transportation	—

Auto Access	56.16578981
Active commuting	48.06877967
Social	—
2-parent households	36.23764917
Voting	66.09778006
Neighborhood	—
Alcohol availability	46.61876043
Park access	62.01719492
Retail density	89.61888875
Supermarket access	23.44411651
Tree canopy	61.86321057
Housing	—
Homeownership	33.00397793
Housing habitability	71.61555242
Low-inc homeowner severe housing cost burden	73.55318876
Low-inc renter severe housing cost burden	86.48787373
Uncrowded housing	43.11561658
Health Outcomes	—
Insured adults	78.54484794
Arthritis	97.3
Asthma ER Admissions	87.5
High Blood Pressure	94.2
Cancer (excluding skin)	87.6
Asthma	98.2
Coronary Heart Disease	97.8
Chronic Obstructive Pulmonary Disease	98.8
Diagnosed Diabetes	93.4
Life Expectancy at Birth	91.5

Cognitively Disabled	94.6
Physically Disabled	87.9
Heart Attack ER Admissions	63.3
Mental Health Not Good	95.0
Chronic Kidney Disease	97.1
Obesity	97.1
Pedestrian Injuries	39.7
Physical Health Not Good	97.7
Stroke	97.8
Health Risk Behaviors	—
Binge Drinking	73.8
Current Smoker	92.2
No Leisure Time for Physical Activity	82.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	13.7
Children	14.8
Elderly	73.9
English Speaking	66.5
Foreign-born	91.6
Outdoor Workers	78.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	26.4
Traffic Density	75.6
Traffic Access	56.3
Other Indices	—
Hardship	22.1
Other Decision Support	—

2016 Voting	71.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	44.0
Healthy Places Index Score for Project Location (b)	81.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	EF based on 2035 CAP reach goal.
Land Use	Based on the info provided by the client on 3/11.
Operations: Consumer Products	Consumer Product EF Update.
Operations: Architectural Coatings	Updated the VOC content to 100g/L for both exterior and interior.
Operations: Vehicle Data	Based on the trip rates provided by the client. Other information remain as defaults.
Operations: Energy Use	Updated General Office based on the info provided by the client.

Related_Manufacture Detailed Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Related_Manufacture
Operational Year	2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	32.8
Location	37.40977477774611, -121.97206281015863
County	Santa Clara
City	Santa Clara
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1704
EDFZ	1
Electric Utility	Silicon Valley Power
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Manufacturing	1,600	1000sqft	36.7	1,600,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Water	W-4	Require Low-Flow Water Fixtures
Water	W-7	Adopt a Water Conservation Strategy
Waste	S-1/S-2	Implement Waste Reduction Plan

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	68.3	64.9	39.2	270	0.79	1.80	69.0	70.8	1.77	17.5	19.3	1,778	100,225	102,003	186	4.50	578	108,565
Mit.	68.3	64.9	39.2	270	0.79	1.80	69.0	70.8	1.77	17.5	19.3	1,086	97,880	98,966	116	4.05	578	103,643
% Reduced	—	—	—	—	—	—	—	—	—	—	—	39%	2%	3%	38%	10%	—	5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	67.2	63.7	42.7	249	0.75	1.80	69.0	70.8	1.77	17.5	19.3	1,778	96,067	97,845	186	4.74	421	104,328
Mit.	67.2	63.7	42.7	249	0.75	1.80	69.0	70.8	1.77	17.5	19.3	1,086	93,722	94,808	116	4.29	421	99,406
% Reduced	—	—	—	—	—	—	—	—	—	—	—	39%	2%	3%	38%	9%	—	5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	57.9	55.2	34.4	174	0.56	1.68	46.9	48.5	1.67	11.9	13.6	1,778	76,442	78,220	185	3.83	465	84,454

Mit.	57.9	55.2	34.4	174	0.56	1.68	46.9	48.5	1.67	11.9	13.6	1,086	74,098	75,184	115	3.38	465	79,532
% Reduced	—	—	—	—	—	—	—	—	—	—	—	39%	3%	4%	38%	12%	—	6%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.6	10.1	6.28	31.8	0.10	0.31	8.55	8.86	0.30	2.17	2.47	294	12,656	12,950	30.6	0.63	77.0	13,982
Mit.	10.6	10.1	6.28	31.8	0.10	0.31	8.55	8.86	0.30	2.17	2.47	180	12,268	12,448	19.0	0.56	77.0	13,167
% Reduced	—	—	—	—	—	—	—	—	—	—	—	39%	3%	4%	38%	12%	—	6%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.8	28.4	20.4	254	0.68	0.36	69.0	69.4	0.34	17.5	17.8	—	69,453	69,453	2.39	2.51	162	70,422
Area	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	29,768	29,768	3.57	0.23	—	29,927
Water	—	—	—	—	—	—	—	—	—	—	—	709	1,004	1,713	72.9	1.75	—	4,058
Waste	—	—	—	—	—	—	—	—	—	—	—	1,069	0.00	1,069	107	0.00	—	3,741
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Total	68.3	64.9	39.2	270	0.79	1.80	69.0	70.8	1.77	17.5	19.3	1,778	100,225	102,003	186	4.50	578	108,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	29.7	27.3	23.9	233	0.64	0.37	69.0	69.4	0.34	17.5	17.8	—	65,295	65,295	2.66	2.75	4.19	66,186
Area	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	29,768	29,768	3.57	0.23	—	29,927
Water	—	—	—	—	—	—	—	—	—	—	—	709	1,004	1,713	72.9	1.75	—	4,058
Waste	—	—	—	—	—	—	—	—	—	—	—	1,069	0.00	1,069	107	0.00	—	3,741

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Total	67.2	63.7	42.7	249	0.75	1.80	69.0	70.8	1.77	17.5	19.3	1,778	96,067	97,845	186	4.74	421	104,328
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.4	18.7	15.6	158	0.45	0.25	46.9	47.1	0.24	11.9	12.1	—	45,670	45,670	1.76	1.84	48.4	46,311
Area	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	29,768	29,768	3.57	0.23	—	29,927
Water	—	—	—	—	—	—	—	—	—	—	—	709	1,004	1,713	72.9	1.75	—	4,058
Waste	—	—	—	—	—	—	—	—	—	—	—	1,069	0.00	1,069	107	0.00	—	3,741
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Total	57.9	55.2	34.4	174	0.56	1.68	46.9	48.5	1.67	11.9	13.6	1,778	76,442	78,220	185	3.83	465	84,454
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.72	3.41	2.85	28.9	0.08	0.05	8.55	8.60	0.04	2.17	2.21	—	7,561	7,561	0.29	0.30	8.01	7,667
Area	6.47	6.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.38	0.19	3.43	2.88	0.02	0.26	—	0.26	0.26	—	0.26	—	4,928	4,928	0.59	0.04	—	4,955
Water	—	—	—	—	—	—	—	—	—	—	—	117	166	284	12.1	0.29	—	672
Waste	—	—	—	—	—	—	—	—	—	—	—	177	0.00	177	17.7	0.00	—	619
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	69.0	69.0
Total	10.6	10.1	6.28	31.8	0.10	0.31	8.55	8.86	0.30	2.17	2.47	294	12,656	12,950	30.6	0.63	77.0	13,982

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.8	28.4	20.4	254	0.68	0.36	69.0	69.4	0.34	17.5	17.8	—	69,453	69,453	2.39	2.51	162	70,422
Area	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	27,647	27,647	3.11	0.18	—	27,778

Water	—	—	—	—	—	—	—	—	—	—	—	551	781	1,332	56.7	1.36	—	3,156
Waste	—	—	—	—	—	—	—	—	—	—	—	535	0.00	535	53.4	0.00	—	1,870
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Total	68.3	64.9	39.2	270	0.79	1.80	69.0	70.8	1.77	17.5	19.3	1,086	97,880	98,966	116	4.05	578	103,643
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	29.7	27.3	23.9	233	0.64	0.37	69.0	69.4	0.34	17.5	17.8	—	65,295	65,295	2.66	2.75	4.19	66,186
Area	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	27,647	27,647	3.11	0.18	—	27,778
Water	—	—	—	—	—	—	—	—	—	—	—	551	781	1,332	56.7	1.36	—	3,156
Waste	—	—	—	—	—	—	—	—	—	—	—	535	0.00	535	53.4	0.00	—	1,870
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Total	67.2	63.7	42.7	249	0.75	1.80	69.0	70.8	1.77	17.5	19.3	1,086	93,722	94,808	116	4.29	421	99,406
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	20.4	18.7	15.6	158	0.45	0.25	46.9	47.1	0.24	11.9	12.1	—	45,670	45,670	1.76	1.84	48.4	46,311
Area	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	27,647	27,647	3.11	0.18	—	27,778
Water	—	—	—	—	—	—	—	—	—	—	—	551	781	1,332	56.7	1.36	—	3,156
Waste	—	—	—	—	—	—	—	—	—	—	—	535	0.00	535	53.4	0.00	—	1,870
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Total	57.9	55.2	34.4	174	0.56	1.68	46.9	48.5	1.67	11.9	13.6	1,086	74,098	75,184	115	3.38	465	79,532
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.72	3.41	2.85	28.9	0.08	0.05	8.55	8.60	0.04	2.17	2.21	—	7,561	7,561	0.29	0.30	8.01	7,667
Area	6.47	6.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.38	0.19	3.43	2.88	0.02	0.26	—	0.26	0.26	—	0.26	—	4,577	4,577	0.51	0.03	—	4,599
Water	—	—	—	—	—	—	—	—	—	—	—	91.3	129	221	9.39	0.23	—	522
Waste	—	—	—	—	—	—	—	—	—	—	—	88.5	0.00	88.5	8.85	0.00	—	310

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	69.0	69.0
Total	10.6	10.1	6.28	31.8	0.10	0.31	8.55	8.86	0.30	2.17	2.47	180	12,268	12,448	19.0	0.56	77.0	13,167

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	30.8	28.4	20.4	254	0.68	0.36	69.0	69.4	0.34	17.5	17.8	—	69,453	69,453	2.39	2.51	162	70,422
Total	30.8	28.4	20.4	254	0.68	0.36	69.0	69.4	0.34	17.5	17.8	—	69,453	69,453	2.39	2.51	162	70,422
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	29.7	27.3	23.9	233	0.64	0.37	69.0	69.4	0.34	17.5	17.8	—	65,295	65,295	2.66	2.75	4.19	66,186
Total	29.7	27.3	23.9	233	0.64	0.37	69.0	69.4	0.34	17.5	17.8	—	65,295	65,295	2.66	2.75	4.19	66,186
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	3.72	3.41	2.85	28.9	0.08	0.05	8.55	8.60	0.04	2.17	2.21	—	7,561	7,561	0.29	0.30	8.01	7,667
Total	3.72	3.41	2.85	28.9	0.08	0.05	8.55	8.60	0.04	2.17	2.21	—	7,561	7,561	0.29	0.30	8.01	7,667

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	30.8	28.4	20.4	254	0.68	0.36	69.0	69.4	0.34	17.5	17.8	—	69,453	69,453	2.39	2.51	162	70,422
Total	30.8	28.4	20.4	254	0.68	0.36	69.0	69.4	0.34	17.5	17.8	—	69,453	69,453	2.39	2.51	162	70,422
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	29.7	27.3	23.9	233	0.64	0.37	69.0	69.4	0.34	17.5	17.8	—	65,295	65,295	2.66	2.75	4.19	66,186
Total	29.7	27.3	23.9	233	0.64	0.37	69.0	69.4	0.34	17.5	17.8	—	65,295	65,295	2.66	2.75	4.19	66,186
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	3.72	3.41	2.85	28.9	0.08	0.05	8.55	8.60	0.04	2.17	2.21	—	7,561	7,561	0.29	0.30	8.01	7,667
Total	3.72	3.41	2.85	28.9	0.08	0.05	8.55	8.60	0.04	2.17	2.21	—	7,561	7,561	0.29	0.30	8.01	7,667

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	7,314	7,314	1.58	0.19	—	7,410
Total	—	—	—	—	—	—	—	—	—	—	—	—	7,314	7,314	1.58	0.19	—	7,410
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Manufac	—	—	—	—	—	—	—	—	—	—	—	—	7,314	7,314	1.58	0.19	—	7,410
Total	—	—	—	—	—	—	—	—	—	—	—	—	7,314	7,314	1.58	0.19	—	7,410
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufac turing	—	—	—	—	—	—	—	—	—	—	—	—	1,211	1,211	0.26	0.03	—	1,227
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,211	1,211	0.26	0.03	—	1,227

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufac turing	—	—	—	—	—	—	—	—	—	—	—	—	5,193	5,193	1.12	0.14	—	5,261
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,193	5,193	1.12	0.14	—	5,261
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufac turing	—	—	—	—	—	—	—	—	—	—	—	—	5,193	5,193	1.12	0.14	—	5,261
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,193	5,193	1.12	0.14	—	5,261
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufac turing	—	—	—	—	—	—	—	—	—	—	—	—	860	860	0.19	0.02	—	871
Total	—	—	—	—	—	—	—	—	—	—	—	—	860	860	0.19	0.02	—	871

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	22,454	22,454	1.99	0.04	—	22,516
Total	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	22,454	22,454	1.99	0.04	—	22,516
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	22,454	22,454	1.99	0.04	—	22,516
Total	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	22,454	22,454	1.99	0.04	—	22,516
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	0.38	0.19	3.43	2.88	0.02	0.26	—	0.26	0.26	—	0.26	—	3,718	3,718	0.33	0.01	—	3,728
Total	0.38	0.19	3.43	2.88	0.02	0.26	—	0.26	0.26	—	0.26	—	3,718	3,718	0.33	0.01	—	3,728

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	22,454	22,454	1.99	0.04	—	22,516
Total	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	22,454	22,454	1.99	0.04	—	22,516
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	22,454	22,454	1.99	0.04	—	22,516
Total	2.07	1.04	18.8	15.8	0.11	1.43	—	1.43	1.43	—	1.43	—	22,454	22,454	1.99	0.04	—	22,516

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	0.38	0.19	3.43	2.88	0.02	0.26	—	0.26	0.26	—	0.26	—	3,718	3,718	0.33	0.01	—	3,728
Total	0.38	0.19	3.43	2.88	0.02	0.26	—	0.26	0.26	—	0.26	—	3,718	3,718	0.33	0.01	—	3,728

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	31.4	31.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.06	4.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	31.4	31.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.06	4.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	5.72	5.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.74	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.47	6.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	31.4	31.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.06	4.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	31.4	31.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	4.06	4.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	35.4	35.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	5.72	5.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.74	0.74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.47	6.47	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	709	1,004	1,713	72.9	1.75	—	4,058
Total	—	—	—	—	—	—	—	—	—	—	—	709	1,004	1,713	72.9	1.75	—	4,058
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	709	1,004	1,713	72.9	1.75	—	4,058
Total	—	—	—	—	—	—	—	—	—	—	—	709	1,004	1,713	72.9	1.75	—	4,058
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	117	166	284	12.1	0.29	—	672
Total	—	—	—	—	—	—	—	—	—	—	—	117	166	284	12.1	0.29	—	672

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	551	781	1,332	56.7	1.36	—	3,156
Total	—	—	—	—	—	—	—	—	—	—	—	551	781	1,332	56.7	1.36	—	3,156
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	551	781	1,332	56.7	1.36	—	3,156
Total	—	—	—	—	—	—	—	—	—	—	—	551	781	1,332	56.7	1.36	—	3,156
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	91.3	129	221	9.39	0.23	—	522
Total	—	—	—	—	—	—	—	—	—	—	—	91.3	129	221	9.39	0.23	—	522

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1,069	0.00	1,069	107	0.00	—	3,741
Total	—	—	—	—	—	—	—	—	—	—	—	1,069	0.00	1,069	107	0.00	—	3,741
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Manufac	—	—	—	—	—	—	—	—	—	—	—	1,069	0.00	1,069	107	0.00	—	3,741
Total	—	—	—	—	—	—	—	—	—	—	—	1,069	0.00	1,069	107	0.00	—	3,741
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	177	0.00	177	17.7	0.00	—	619
Total	—	—	—	—	—	—	—	—	—	—	—	177	0.00	177	17.7	0.00	—	619

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	535	0.00	535	53.4	0.00	—	1,870
Total	—	—	—	—	—	—	—	—	—	—	—	535	0.00	535	53.4	0.00	—	1,870
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	535	0.00	535	53.4	0.00	—	1,870
Total	—	—	—	—	—	—	—	—	—	—	—	535	0.00	535	53.4	0.00	—	1,870
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	88.5	0.00	88.5	8.85	0.00	—	310
Total	—	—	—	—	—	—	—	—	—	—	—	88.5	0.00	88.5	8.85	0.00	—	310

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	69.0	69.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	69.0	69.0

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	416	416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	69.0	69.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	69.0	69.0

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Manufacturing	6,288	10,272	8,144	2,599,634	59,932	97,904	77,622	24,777,586

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Manufacturing	6,288	10,272	8,144	2,599,634	59,932	97,904	77,622	24,777,586

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	2,400,000	800,000	—

5.10.3. Landscape Equipment

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.10.4. Landscape Equipment - Mitigated

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Manufacturing	17,456,234	153	0.0330	0.0040	70,062,570

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Manufacturing	12,393,926	153	0.0330	0.0040	70,062,570

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Manufacturing	370,000,000	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Manufacturing	287,712,000	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Manufacturing	1,984	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Manufacturing	992	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Manufacturing	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Manufacturing	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.2	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.5	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A

Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	16.8
AQ-PM	19.6
AQ-DPM	73.9
Drinking Water	50.2
Lead Risk Housing	12.0
Pesticides	0.00
Toxic Releases	38.1
Traffic	88.8
Effect Indicators	—
CleanUp Sites	99.3
Groundwater	93.5
Haz Waste Facilities/Generators	96.1
Impaired Water Bodies	43.8
Solid Waste	75.7
Sensitive Population	—
Asthma	17.8
Cardio-vascular	31.2
Low Birth Weights	62.9
Socioeconomic Factor Indicators	—
Education	26.9
Housing	25.3
Linguistic	48.7
Poverty	14.7
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	68.7925061
Employed	79.36609778
Median HI	89.15693571
Education	—
Bachelor's or higher	88.31002181
High school enrollment	100
Preschool enrollment	64.42961632
Transportation	—
Auto Access	56.16578981
Active commuting	48.06877967
Social	—
2-parent households	36.23764917
Voting	66.09778006
Neighborhood	—
Alcohol availability	46.61876043
Park access	62.01719492
Retail density	89.61888875
Supermarket access	23.44411651
Tree canopy	61.86321057
Housing	—
Homeownership	33.00397793
Housing habitability	71.61555242
Low-inc homeowner severe housing cost burden	73.55318876
Low-inc renter severe housing cost burden	86.48787373

Uncrowded housing	43.11561658
Health Outcomes	—
Insured adults	78.54484794
Arthritis	97.3
Asthma ER Admissions	87.5
High Blood Pressure	94.2
Cancer (excluding skin)	87.6
Asthma	98.2
Coronary Heart Disease	97.8
Chronic Obstructive Pulmonary Disease	98.8
Diagnosed Diabetes	93.4
Life Expectancy at Birth	91.5
Cognitively Disabled	94.6
Physically Disabled	87.9
Heart Attack ER Admissions	63.3
Mental Health Not Good	95.0
Chronic Kidney Disease	97.1
Obesity	97.1
Pedestrian Injuries	39.7
Physical Health Not Good	97.7
Stroke	97.8
Health Risk Behaviors	—
Binge Drinking	73.8
Current Smoker	92.2
No Leisure Time for Physical Activity	82.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	13.7

Children	14.8
Elderly	73.9
English Speaking	66.5
Foreign-born	91.6
Outdoor Workers	78.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	26.4
Traffic Density	75.6
Traffic Access	56.3
Other Indices	—
Hardship	22.1
Other Decision Support	—
2016 Voting	71.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	44.0
Healthy Places Index Score for Project Location (b)	81.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	EF based on 2035 CAP reach goal. (Consistent with EIR scheme B baseline)
Operations: Emergency Generators and Fire Pumps	Assumption based on other manufacturing EIR.
Operations: Consumer Products	Updated general category EF.
Operations: Architectural Coatings	Change VOC content to 100 g/L for both exterior and interior.

Related_Warehouse_NotRefrigerated Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Related_Warehouse_NotRefrigerated
Operational Year	2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	32.8
Location	37.40977477774611, -121.97206281015863
County	Santa Clara
City	Santa Clara
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1704
EDFZ	1
Electric Utility	Silicon Valley Power
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Unrefrigerated Warehouse-No Rail	800	1000sqft	18.4	800,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Water	W-4	Require Low-Flow Water Fixtures
Water	W-7	Adopt a Water Conservation Strategy
Waste	S-1/S-2	Implement Waste Reduction Plan

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.0	21.6	3.90	35.4	0.10	0.14	9.36	9.49	0.13	2.37	2.50	760	14,619	15,379	78.1	1.31	21.9	17,743
Mit.	22.0	21.6	3.90	35.4	0.10	0.14	9.36	9.49	0.13	2.37	2.50	478	13,533	14,012	49.6	1.09	21.9	15,597
% Reduced	—	—	—	—	—	—	—	—	—	—	—	37%	7%	9%	37%	17%	—	12%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	21.9	21.5	4.37	32.6	0.09	0.14	9.36	9.49	0.13	2.37	2.50	760	14,055	14,815	78.2	1.34	0.57	17,169
Mit.	21.9	21.5	4.37	32.6	0.09	0.14	9.36	9.49	0.13	2.37	2.50	478	12,970	13,448	49.6	1.12	0.57	15,022
% Reduced	—	—	—	—	—	—	—	—	—	—	—	37%	8%	9%	37%	16%	—	13%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	21.8	21.4	4.18	31.9	0.09	0.14	9.16	9.29	0.13	2.32	2.45	760	14,133	14,893	78.2	1.33	9.45	17,251

Mit.	21.8	21.4	4.18	31.9	0.09	0.14	9.16	9.29	0.13	2.32	2.45	478	13,047	13,526	49.6	1.11	9.45	15,104
% Reduced	—	—	—	—	—	—	—	—	—	—	—	37%	8%	9%	37%	17%	—	12%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.98	3.91	0.76	5.82	0.02	0.02	1.67	1.70	0.02	0.42	0.45	126	2,340	2,466	12.9	0.22	1.56	2,856
Mit.	3.98	3.91	0.76	5.82	0.02	0.02	1.67	1.70	0.02	0.42	0.45	79.2	2,160	2,239	8.21	0.18	1.56	2,501
% Reduced	—	—	—	—	—	—	—	—	—	—	—	37%	8%	9%	37%	17%	—	12%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.17	3.85	2.77	34.4	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	9,412	9,412	0.32	0.34	21.9	9,543
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	4,705	4,705	0.84	0.09	—	4,753
Water	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Waste	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Total	22.0	21.6	3.90	35.4	0.10	0.14	9.36	9.49	0.13	2.37	2.50	760	14,619	15,379	78.1	1.31	21.9	17,743
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.03	3.70	3.24	31.6	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	8,848	8,848	0.36	0.37	0.57	8,969
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	4,705	4,705	0.84	0.09	—	4,753
Water	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Waste	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Total	21.9	21.5	4.37	32.6	0.09	0.14	9.36	9.49	0.13	2.37	2.50	760	14,055	14,815	78.2	1.34	0.57	17,169

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.98	3.66	3.05	30.9	0.09	0.05	9.16	9.21	0.05	2.32	2.37	—	8,926	8,926	0.34	0.36	9.45	9,051
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	4,705	4,705	0.84	0.09	—	4,753
Water	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Waste	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Total	21.8	21.4	4.18	31.9	0.09	0.14	9.16	9.29	0.13	2.32	2.45	760	14,133	14,893	78.2	1.33	9.45	17,251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.73	0.67	0.56	5.65	0.02	0.01	1.67	1.68	0.01	0.42	0.43	—	1,478	1,478	0.06	0.06	1.56	1,499
Area	3.23	3.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	779	779	0.14	0.01	—	787
Water	—	—	—	—	—	—	—	—	—	—	—	58.7	83.1	142	6.04	0.15	—	336
Waste	—	—	—	—	—	—	—	—	—	—	—	67.1	0.00	67.1	6.71	0.00	—	235
Total	3.98	3.91	0.76	5.82	0.02	0.02	1.67	1.70	0.02	0.42	0.45	126	2,340	2,466	12.9	0.22	1.56	2,856

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.17	3.85	2.77	34.4	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	9,412	9,412	0.32	0.34	21.9	9,543
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	3,731	3,731	0.63	0.06	—	3,766
Water	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Waste	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Total	22.0	21.6	3.90	35.4	0.10	0.14	9.36	9.49	0.13	2.37	2.50	478	13,533	14,012	49.6	1.09	21.9	15,597

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.03	3.70	3.24	31.6	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	8,848	8,848	0.36	0.37	0.57	8,969
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	3,731	3,731	0.63	0.06	—	3,766
Water	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Waste	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Total	21.9	21.5	4.37	32.6	0.09	0.14	9.36	9.49	0.13	2.37	2.50	478	12,970	13,448	49.6	1.12	0.57	15,022
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.98	3.66	3.05	30.9	0.09	0.05	9.16	9.21	0.05	2.32	2.37	—	8,926	8,926	0.34	0.36	9.45	9,051
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	3,731	3,731	0.63	0.06	—	3,766
Water	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Waste	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Total	21.8	21.4	4.18	31.9	0.09	0.14	9.16	9.29	0.13	2.32	2.45	478	13,047	13,526	49.6	1.11	9.45	15,104
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.73	0.67	0.56	5.65	0.02	0.01	1.67	1.68	0.01	0.42	0.43	—	1,478	1,478	0.06	0.06	1.56	1,499
Area	3.23	3.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	618	618	0.10	0.01	—	624
Water	—	—	—	—	—	—	—	—	—	—	—	45.6	64.6	110	4.69	0.11	—	261
Waste	—	—	—	—	—	—	—	—	—	—	—	33.5	0.00	33.5	3.35	0.00	—	117
Total	3.98	3.91	0.76	5.82	0.02	0.02	1.67	1.70	0.02	0.42	0.45	79.2	2,160	2,239	8.21	0.18	1.56	2,501

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	4.17	3.85	2.77	34.4	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	9,412	9,412	0.32	0.34	21.9	9,543
Total	4.17	3.85	2.77	34.4	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	9,412	9,412	0.32	0.34	21.9	9,543
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	4.03	3.70	3.24	31.6	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	8,848	8,848	0.36	0.37	0.57	8,969
Total	4.03	3.70	3.24	31.6	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	8,848	8,848	0.36	0.37	0.57	8,969
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.73	0.67	0.56	5.65	0.02	0.01	1.67	1.68	0.01	0.42	0.43	—	1,478	1,478	0.06	0.06	1.56	1,499
Total	0.73	0.67	0.56	5.65	0.02	0.01	1.67	1.68	0.01	0.42	0.43	—	1,478	1,478	0.06	0.06	1.56	1,499

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	4.17	3.85	2.77	34.4	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	9,412	9,412	0.32	0.34	21.9	9,543
Total	4.17	3.85	2.77	34.4	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	9,412	9,412	0.32	0.34	21.9	9,543
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	4.03	3.70	3.24	31.6	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	8,848	8,848	0.36	0.37	0.57	8,969
Total	4.03	3.70	3.24	31.6	0.09	0.05	9.36	9.41	0.05	2.37	2.42	—	8,848	8,848	0.36	0.37	0.57	8,969
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.73	0.67	0.56	5.65	0.02	0.01	1.67	1.68	0.01	0.42	0.43	—	1,478	1,478	0.06	0.06	1.56	1,499
Total	0.73	0.67	0.56	5.65	0.02	0.01	1.67	1.68	0.01	0.42	0.43	—	1,478	1,478	0.06	0.06	1.56	1,499

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrig Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,358	3,358	0.72	0.09	—	3,402
Total	—	—	—	—	—	—	—	—	—	—	—	—	3,358	3,358	0.72	0.09	—	3,402
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	3,358	3,358	0.72	0.09	—	3,402
Total	—	—	—	—	—	—	—	—	—	—	—	—	3,358	3,358	0.72	0.09	—	3,402
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	556	556	0.12	0.01	—	563
Total	—	—	—	—	—	—	—	—	—	—	—	—	556	556	0.12	0.01	—	563

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	2,384	2,384	0.51	0.06	—	2,416
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,384	2,384	0.51	0.06	—	2,416

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	2,384	2,384	0.51	0.06	—	2,416
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,384	2,384	0.51	0.06	—	2,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	395	395	0.09	0.01	—	400
Total	—	—	—	—	—	—	—	—	—	—	—	—	395	395	0.09	0.01	—	400

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	1,347	1,347	0.12	< 0.005	—	1,351
Total	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	1,347	1,347	0.12	< 0.005	—	1,351
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Warehouse-No	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	1,347	1,347	0.12	< 0.005	—	1,351
Total	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	1,347	1,347	0.12	< 0.005	—	1,351
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.02	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	223	223	0.02	< 0.005	—	224
Total	0.02	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	223	223	0.02	< 0.005	—	224

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	1,347	1,347	0.12	< 0.005	—	1,351
Total	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	1,347	1,347	0.12	< 0.005	—	1,351
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	1,347	1,347	0.12	< 0.005	—	1,351
Total	0.12	0.06	1.13	0.95	0.01	0.09	—	0.09	0.09	—	0.09	—	1,347	1,347	0.12	< 0.005	—	1,351
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrig Warehouse-No Rail	0.02	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	223	223	0.02	< 0.005	—	224
Total	0.02	0.01	0.21	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	223	223	0.02	< 0.005	—	224

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.7	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.03	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.7	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.03	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	2.86	2.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.23	3.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.7	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.03	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.7	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.03	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	2.86	2.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.23	3.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Total	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Total	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unrefrigerated Wareho Rail	—	—	—	—	—	—	—	—	—	—	—	58.7	83.1	142	6.04	0.15	—	336
Total	—	—	—	—	—	—	—	—	—	—	—	58.7	83.1	142	6.04	0.15	—	336

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Total	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Total	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	45.6	64.6	110	4.69	0.11	—	261
Total	—	—	—	—	—	—	—	—	—	—	—	45.6	64.6	110	4.69	0.11	—	261

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Total	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Total	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	67.1	0.00	67.1	6.71	0.00	—	235
Total	—	—	—	—	—	—	—	—	—	—	—	67.1	0.00	67.1	6.71	0.00	—	235

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Total	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Total	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	33.5	0.00	33.5	3.35	0.00	—	117
Total	—	—	—	—	—	—	—	—	—	—	—	33.5	0.00	33.5	3.35	0.00	—	117

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	1,392	1,392	1,392	508,080	13,267	13,267	13,267	4,842,603

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Unrefrigerated Warehouse-No Rail	1,392	1,392	1,392	508,080	13,267	13,267	13,267	4,842,603

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1,200,000	400,000	—

5.10.3. Landscape Equipment

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.10.4. Landscape Equipment - Mitigated

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Unrefrigerated Warehouse-No Rail	8,014,251	153	0.0330	0.0040	4,203,418

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)

Unrefrigerated Warehouse-No Rail	5,690,118	153	0.0330	0.0040	4,203,418

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	185,000,000	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Unrefrigerated Warehouse-No Rail	143,856,000	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	752	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Unrefrigerated Warehouse-No Rail	376	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.2	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.5	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	16.8
AQ-PM	19.6
AQ-DPM	73.9
Drinking Water	50.2
Lead Risk Housing	12.0

Pesticides	0.00
Toxic Releases	38.1
Traffic	88.8
Effect Indicators	—
CleanUp Sites	99.3
Groundwater	93.5
Haz Waste Facilities/Generators	96.1
Impaired Water Bodies	43.8
Solid Waste	75.7
Sensitive Population	—
Asthma	17.8
Cardio-vascular	31.2
Low Birth Weights	62.9
Socioeconomic Factor Indicators	—
Education	26.9
Housing	25.3
Linguistic	48.7
Poverty	14.7
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	68.7925061
Employed	79.36609778
Median HI	89.15693571
Education	—

Bachelor's or higher	88.31002181
High school enrollment	100
Preschool enrollment	64.42961632
Transportation	—
Auto Access	56.16578981
Active commuting	48.06877967
Social	—
2-parent households	36.23764917
Voting	66.09778006
Neighborhood	—
Alcohol availability	46.61876043
Park access	62.01719492
Retail density	89.61888875
Supermarket access	23.44411651
Tree canopy	61.86321057
Housing	—
Homeownership	33.00397793
Housing habitability	71.61555242
Low-inc homeowner severe housing cost burden	73.55318876
Low-inc renter severe housing cost burden	86.48787373
Uncrowded housing	43.11561658
Health Outcomes	—
Insured adults	78.54484794
Arthritis	97.3
Asthma ER Admissions	87.5
High Blood Pressure	94.2
Cancer (excluding skin)	87.6
Asthma	98.2

Coronary Heart Disease	97.8
Chronic Obstructive Pulmonary Disease	98.8
Diagnosed Diabetes	93.4
Life Expectancy at Birth	91.5
Cognitively Disabled	94.6
Physically Disabled	87.9
Heart Attack ER Admissions	63.3
Mental Health Not Good	95.0
Chronic Kidney Disease	97.1
Obesity	97.1
Pedestrian Injuries	39.7
Physical Health Not Good	97.7
Stroke	97.8
Health Risk Behaviors	—
Binge Drinking	73.8
Current Smoker	92.2
No Leisure Time for Physical Activity	82.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	13.7
Children	14.8
Elderly	73.9
English Speaking	66.5
Foreign-born	91.6
Outdoor Workers	78.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	26.4
Traffic Density	75.6

Traffic Access	56.3
Other Indices	—
Hardship	22.1
Other Decision Support	—
2016 Voting	71.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	44.0
Healthy Places Index Score for Project Location (b)	81.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	EF based on 2035 CAP reach goal. (Consistent with EIR scheme B baseline)
Operations: Emergency Generators and Fire Pumps	Assumption based on other manufacturing EIR.
Operations: Consumer Products	Updated general category EF.

Operations: Architectural Coatings	Update VOC content to 100g/L for both exterior and interior.
Operations: Refrigerants	Only half of warehouse will be refrigerated.

Related_Warehouse_Refrigerated Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Related_Warehouse_Refrigerated
Operational Year	2030
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.70
Precipitation (days)	32.8
Location	37.40977477774611, -121.97206281015863
County	Santa Clara
City	Santa Clara
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1704
EDFZ	1
Electric Utility	Silicon Valley Power
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.26

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Refrigerated Warehouse-No Rail	800	1000sqft	18.4	800,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power
Water	W-4	Require Low-Flow Water Fixtures
Water	W-7	Adopt a Water Conservation Strategy
Waste	S-1/S-2	Implement Waste Reduction Plan

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.8	22.4	3.81	42.3	0.12	0.09	11.4	11.5	0.09	2.89	2.98	760	20,285	21,045	79.1	1.50	21,347	44,815
Mit.	22.8	22.4	3.81	42.3	0.12	0.09	11.4	11.5	0.09	2.89	2.98	478	17,913	18,391	50.2	1.24	21,347	41,364
% Reduced	—	—	—	—	—	—	—	—	—	—	—	37%	12%	13%	36%	17%	—	8%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.7	22.2	4.38	38.9	0.11	0.09	11.4	11.5	0.09	2.89	2.98	760	19,598	20,358	79.1	1.54	21,321	44,115
Mit.	22.7	22.2	4.38	38.9	0.11	0.09	11.4	11.5	0.09	2.89	2.98	478	17,226	17,705	50.3	1.28	21,321	40,665
% Reduced	—	—	—	—	—	—	—	—	—	—	—	37%	12%	13%	36%	17%	—	8%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	22.6	22.2	4.15	38.1	0.11	0.09	11.2	11.3	0.09	2.83	2.92	760	19,693	20,453	79.1	1.52	21,332	44,215

Mit.	22.6	22.2	4.15	38.1	0.11	0.09	11.2	11.3	0.09	2.83	2.92	478	17,321	17,799	50.3	1.27	21,332	40,765
% Reduced	—	—	—	—	—	—	—	—	—	—	—	37%	12%	13%	36%	17%	—	8%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.13	4.05	0.76	6.95	0.02	0.02	2.04	2.05	0.02	0.52	0.53	126	3,260	3,386	13.1	0.25	3,532	7,320
Mit.	4.13	4.05	0.76	6.95	0.02	0.02	2.04	2.05	0.02	0.52	0.53	79.2	2,868	2,947	8.32	0.21	3,532	6,749
% Reduced	—	—	—	—	—	—	—	—	—	—	—	37%	12%	13%	36%	17%	—	8%

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.08	4.69	3.37	41.9	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	11,467	11,467	0.39	0.41	26.7	11,627
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	8,316	8,316	1.73	0.20	—	8,420
Water	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Waste	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Total	22.8	22.4	3.81	42.3	0.12	0.09	11.4	11.5	0.09	2.89	2.98	760	20,285	21,045	79.1	1.50	21,347	44,815
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.91	4.51	3.95	38.5	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	10,781	10,781	0.44	0.45	0.69	10,928
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	8,316	8,316	1.73	0.20	—	8,420
Water	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Waste	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Total	22.7	22.2	4.38	38.9	0.11	0.09	11.4	11.5	0.09	2.89	2.98	760	19,598	20,358	79.1	1.54	21,321	44,115
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.85	4.45	3.71	37.7	0.11	0.06	11.2	11.2	0.06	2.83	2.89	—	10,875	10,875	0.42	0.44	11.5	11,028
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	8,316	8,316	1.73	0.20	—	8,420
Water	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Waste	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Total	22.6	22.2	4.15	38.1	0.11	0.09	11.2	11.3	0.09	2.83	2.92	760	19,693	20,453	79.1	1.52	21,332	44,215
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.89	0.81	0.68	6.88	0.02	0.01	2.04	2.05	0.01	0.52	0.53	—	1,801	1,801	0.07	0.07	1.91	1,826
Area	3.23	3.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,377	1,377	0.29	0.03	—	1,394
Water	—	—	—	—	—	—	—	—	—	—	—	58.7	83.1	142	6.04	0.15	—	336
Waste	—	—	—	—	—	—	—	—	—	—	—	67.1	0.00	67.1	6.71	0.00	—	235
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,530	3,530
Total	4.13	4.05	0.76	6.95	0.02	0.02	2.04	2.05	0.02	0.52	0.53	126	3,260	3,386	13.1	0.25	3,532	7,320

2.6. Operations Emissions by Sector, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	5.08	4.69	3.37	41.9	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	11,467	11,467	0.39	0.41	26.7	11,627
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	6,055	6,055	1.24	0.15	—	6,130

Water	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Waste	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Total	22.8	22.4	3.81	42.3	0.12	0.09	11.4	11.5	0.09	2.89	2.98	478	17,913	18,391	50.2	1.24	21,347	41,364
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.91	4.51	3.95	38.5	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	10,781	10,781	0.44	0.45	0.69	10,928
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	6,055	6,055	1.24	0.15	—	6,130
Water	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Waste	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Total	22.7	22.2	4.38	38.9	0.11	0.09	11.4	11.5	0.09	2.89	2.98	478	17,226	17,705	50.3	1.28	21,321	40,665
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.85	4.45	3.71	37.7	0.11	0.06	11.2	11.2	0.06	2.83	2.89	—	10,875	10,875	0.42	0.44	11.5	11,028
Area	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	6,055	6,055	1.24	0.15	—	6,130
Water	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Waste	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Total	22.6	22.2	4.15	38.1	0.11	0.09	11.2	11.3	0.09	2.83	2.92	478	17,321	17,799	50.3	1.27	21,332	40,765
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.89	0.81	0.68	6.88	0.02	0.01	2.04	2.05	0.01	0.52	0.53	—	1,801	1,801	0.07	0.07	1.91	1,826
Area	3.23	3.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	1,003	1,003	0.21	0.02	—	1,015
Water	—	—	—	—	—	—	—	—	—	—	—	45.6	64.6	110	4.69	0.11	—	261
Waste	—	—	—	—	—	—	—	—	—	—	—	33.5	0.00	33.5	3.35	0.00	—	117

Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,530	3,530
Total	4.13	4.05	0.76	6.95	0.02	0.02	2.04	2.05	0.02	0.52	0.53	79.2	2,868	2,947	8.32	0.21	3,532	6,749

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	5.08	4.69	3.37	41.9	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	11,467	11,467	0.39	0.41	26.7	11,627
Total	5.08	4.69	3.37	41.9	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	11,467	11,467	0.39	0.41	26.7	11,627
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	4.91	4.51	3.95	38.5	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	10,781	10,781	0.44	0.45	0.69	10,928
Total	4.91	4.51	3.95	38.5	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	10,781	10,781	0.44	0.45	0.69	10,928
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.89	0.81	0.68	6.88	0.02	0.01	2.04	2.05	0.01	0.52	0.53	—	1,801	1,801	0.07	0.07	1.91	1,826

Total	0.89	0.81	0.68	6.88	0.02	0.01	2.04	2.05	0.01	0.52	0.53	—	1,801	1,801	0.07	0.07	1.91	1,826

4.1.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	5.08	4.69	3.37	41.9	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	11,467	11,467	0.39	0.41	26.7	11,627
Total	5.08	4.69	3.37	41.9	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	11,467	11,467	0.39	0.41	26.7	11,627
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	4.91	4.51	3.95	38.5	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	10,781	10,781	0.44	0.45	0.69	10,928
Total	4.91	4.51	3.95	38.5	0.11	0.06	11.4	11.5	0.06	2.89	2.95	—	10,781	10,781	0.44	0.45	0.69	10,928
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.89	0.81	0.68	6.88	0.02	0.01	2.04	2.05	0.01	0.52	0.53	—	1,801	1,801	0.07	0.07	1.91	1,826
Total	0.89	0.81	0.68	6.88	0.02	0.01	2.04	2.05	0.01	0.52	0.53	—	1,801	1,801	0.07	0.07	1.91	1,826

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	7,794	7,794	1.68	0.20	—	7,897
Total	—	—	—	—	—	—	—	—	—	—	—	—	7,794	7,794	1.68	0.20	—	7,897
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	7,794	7,794	1.68	0.20	—	7,897
Total	—	—	—	—	—	—	—	—	—	—	—	—	7,794	7,794	1.68	0.20	—	7,897
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,290	1,290	0.28	0.03	—	1,307
Total	—	—	—	—	—	—	—	—	—	—	—	—	1,290	1,290	0.28	0.03	—	1,307

4.2.2. Electricity Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	5,534	5,534	1.19	0.14	—	5,607
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,534	5,534	1.19	0.14	—	5,607
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	5,534	5,534	1.19	0.14	—	5,607
Total	—	—	—	—	—	—	—	—	—	—	—	—	5,534	5,534	1.19	0.14	—	5,607
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	916	916	0.20	0.02	—	928
Total	—	—	—	—	—	—	—	—	—	—	—	—	916	916	0.20	0.02	—	928

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehouse-No	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	521	521	0.05	< 0.005	—	523
Total	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	521	521	0.05	< 0.005	—	523
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	521	521	0.05	< 0.005	—	523
Total	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	521	521	0.05	< 0.005	—	523
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.3	86.3	0.01	< 0.005	—	86.5
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.3	86.3	0.01	< 0.005	—	86.5

4.2.4. Natural Gas Emissions By Land Use - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	521	521	0.05	< 0.005	—	523
Total	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	521	521	0.05	< 0.005	—	523

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	521	521	0.05	< 0.005	—	523
Total	0.05	0.02	0.44	0.37	< 0.005	0.03	—	0.03	0.03	—	0.03	—	521	521	0.05	< 0.005	—	523
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.3	86.3	0.01	< 0.005	—	86.5
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	86.3	86.3	0.01	< 0.005	—	86.5

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.7	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.03	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.7	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.03	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.86	2.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.23	3.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.3.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.7	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	2.03	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	15.7	15.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.03	2.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	17.7	17.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.86	2.86	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.37	0.37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	3.23	3.23	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Total	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Total	—	—	—	—	—	—	—	—	—	—	—	355	502	856	36.5	0.88	—	2,029
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	58.7	83.1	142	6.04	0.15	—	336
Total	—	—	—	—	—	—	—	—	—	—	—	58.7	83.1	142	6.04	0.15	—	336

4.4.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehouse-No	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Total	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Total	—	—	—	—	—	—	—	—	—	—	—	276	390	666	28.4	0.68	—	1,578
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	45.6	64.6	110	4.69	0.11	—	261
Total	—	—	—	—	—	—	—	—	—	—	—	45.6	64.6	110	4.69	0.11	—	261

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418

Total	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Total	—	—	—	—	—	—	—	—	—	—	—	405	0.00	405	40.5	0.00	—	1,418
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	67.1	0.00	67.1	6.71	0.00	—	235
Total	—	—	—	—	—	—	—	—	—	—	—	67.1	0.00	67.1	6.71	0.00	—	235

4.5.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Total	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehouse-Rail	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Total	—	—	—	—	—	—	—	—	—	—	—	203	0.00	203	20.3	0.00	—	709
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	33.5	0.00	33.5	3.35	0.00	—	117
Total	—	—	—	—	—	—	—	—	—	—	—	33.5	0.00	33.5	3.35	0.00	—	117

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,530	3,530
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,530	3,530

4.6.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21,320	21,320
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,530	3,530
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3,530	3,530

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Refrigerated Warehouse-No Rail	1,696	1,696	1,696	619,040	16,165	16,165	16,165	5,900,182

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Refrigerated Warehouse-No Rail	1,696	1,696	1,696	619,040	16,165	16,165	16,165	5,900,182

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	1,200,000	400,000	—

5.10.3. Landscape Equipment

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.10.4. Landscape Equipment - Mitigated

Equipment Type	Fuel Type	Number Per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Refrigerated Warehouse-No Rail	18,602,730	153	0.0330	0.0040	1,626,315

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Refrigerated Warehouse-No Rail	13,207,938	153	0.0330	0.0040	1,626,315

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Refrigerated Warehouse-No Rail	185,000,000	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Refrigerated Warehouse-No Rail	143,856,000	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	752	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Refrigerated Warehouse-No Rail	376	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Refrigerated Warehouse-No Rail	Cold storage	R-404A	3,922	7.50	7.50	7.50	25.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Refrigerated Warehouse-No Rail	Cold storage	R-404A	3,922	7.50	7.50	7.50	25.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	12.2	annual days of extreme heat
Extreme Precipitation	2.50	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.5	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	1	1	1	2
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	16.8
AQ-PM	19.6
AQ-DPM	73.9
Drinking Water	50.2
Lead Risk Housing	12.0
Pesticides	0.00
Toxic Releases	38.1
Traffic	88.8
Effect Indicators	—
CleanUp Sites	99.3
Groundwater	93.5
Haz Waste Facilities/Generators	96.1
Impaired Water Bodies	43.8
Solid Waste	75.7
Sensitive Population	—
Asthma	17.8
Cardio-vascular	31.2
Low Birth Weights	62.9
Socioeconomic Factor Indicators	—

Education	26.9
Housing	25.3
Linguistic	48.7
Poverty	14.7
Unemployment	45.8

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	68.7925061
Employed	79.36609778
Median HI	89.15693571
Education	—
Bachelor's or higher	88.31002181
High school enrollment	100
Preschool enrollment	64.42961632
Transportation	—
Auto Access	56.16578981
Active commuting	48.06877967
Social	—
2-parent households	36.23764917
Voting	66.09778006
Neighborhood	—
Alcohol availability	46.61876043
Park access	62.01719492
Retail density	89.61888875
Supermarket access	23.44411651

Tree canopy	61.86321057
Housing	—
Homeownership	33.00397793
Housing habitability	71.61555242
Low-inc homeowner severe housing cost burden	73.55318876
Low-inc renter severe housing cost burden	86.48787373
Uncrowded housing	43.11561658
Health Outcomes	—
Insured adults	78.54484794
Arthritis	97.3
Asthma ER Admissions	87.5
High Blood Pressure	94.2
Cancer (excluding skin)	87.6
Asthma	98.2
Coronary Heart Disease	97.8
Chronic Obstructive Pulmonary Disease	98.8
Diagnosed Diabetes	93.4
Life Expectancy at Birth	91.5
Cognitively Disabled	94.6
Physically Disabled	87.9
Heart Attack ER Admissions	63.3
Mental Health Not Good	95.0
Chronic Kidney Disease	97.1
Obesity	97.1
Pedestrian Injuries	39.7
Physical Health Not Good	97.7
Stroke	97.8
Health Risk Behaviors	—

Binge Drinking	73.8
Current Smoker	92.2
No Leisure Time for Physical Activity	82.1
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	13.7
Children	14.8
Elderly	73.9
English Speaking	66.5
Foreign-born	91.6
Outdoor Workers	78.1
Climate Change Adaptive Capacity	—
Impervious Surface Cover	26.4
Traffic Density	75.6
Traffic Access	56.3
Other Indices	—
Hardship	22.1
Other Decision Support	—
2016 Voting	71.9

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	44.0
Healthy Places Index Score for Project Location (b)	81.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Utility Information	EF based on 2035 CAP reach goal. (Consistent with EIR scheme B baseline)
Operations: Emergency Generators and Fire Pumps	Assumption based on other manufacturing EIR.
Operations: Consumer Products	Updated general category EF.
Operations: Architectural Coatings	Update VOC content to 100g/L for both exterior and interior.
Operations: Refrigerants	Only half of warehouse will be refrigerated.

APPENDIX B
TRAFFIC STUDY

Data Sources, Assumptions and Trip Generation

Intersections

Intersection No.	Intersection Name
8	Great America Pkwy / Tasman Dr
11	Tasman Dr / Centennial Blvd
13	Tasman Dr / Calle del Sol
14	Tasman Dr / Lick Mill Blvd
59	Great America Pkwy / Great America Way
60	Great America Pkwy / Old Mountain View-Alviso Rd
61	Great America Pkwy / City Place Pkwy
62	Great America Pkwy / Second St
85	Lafayette St / Great America Way
86	Lafayette St / Future Driveway to NE Parcel
87	Lafayette St / Jug Handle
88	Lafayette St / Future Driveway to NE Parcel South
90	Lafayette St / Calle De Luna

Analysis Period

AM Peak Hour
PM Peak Hour
Daily

Background Traffic Volumes

Data	Intersections No.	Data Sources
2020 Background	8, 11, 13, 14, 59, 60	Menlo Equities 2018/2019 Traffic Counts (note that these counts are also used in other recent EIRs)
2020 Background	61, 62, 85, 86, 87, 90	EIR 2014 + 2% annual growth rate (Traffic counts from Menlo Equities are not available at these intersections)
2040 Cumulative	all intersections	Maximum volume forecast from either the 2015 EIR Cumulative No Project forecast or Cumulative Plus Project forecasts

Data	Intersections No.	Data Sources	Multiplier
Daily Traffic % Adjustment	NA	23% of PM peak period (with 3h period results in 7.6% per hour) and 22% AM peak period (7.3% per hour) traffic based on VTA (https://data.vta.org/pages/traffic-volume) - assuming that peak periods are about 3h results in 2019	6.7
Daily Traffic % Adjustment	NA	Replica - AM peak hour 8.7%; PM peak hour 7.75%	6.1
Daily Traffic % Adjustment	NA	**Adopted for daily counts**	**6.7**
Nighttime Traffic % Adjustment - Vehicl	NA	Replica - Traffic Profile; Nighttime typical hour compared to daily traffic	0.0442
Nighttime Traffic % Adjustment - Trucks	NA	Replica - Traffic Profile Commercial Traffic; Nighttime typical hour compared to daily traffic	0.0565

Trip Generation

NE Parcel Trip Generation

Land-Use Type	ITE Code	NE Parcel	ITE 11th Edition		
			AM Rate (per 1000 sqft)	PM Rate (per 1000 sqft)	Daily Rate (per 1000 sqft)
Manufacturing (used for Vehicles)	140	1,600,000 sqft	0.68	0.74	4.75
Warehouse (used for Trucks)	150	1,600,000 sqft	0.02	0.03	0.6

Citycenter Trip Generation

Land-Use Type	Methodology	Parcel 4	Parcel 5	AM Rate (per 1000 sqft)[4]	PM Rate (per 1000 sqft)[4]	Daily (per 1000 sqft)[4]	Transit Reduction[6]
Office	Silicon Valley	4,102,181 sqft	415,219 sqft	0.31	0.3	2.95	5%
	Average Rate[1]						
Supermarket	ITE (LUC 850)	50,000 sqft		3.4	9.3	94.8	5%
	Fitted Curve[2]						
Shopping Center / Retail	ITE (LUC 820)	550,000 sqft	25,000 sqft	0.8 / 2.6	3.41 / 9.4	37.4 / 110.4	5%
	Fitted Curve						
Restaurant (F&B)	Other[7]	100,000 sqft	25,000 sqft	7.29	10.69	170.04	5%
	Average Rate						
Entertainment	ITE (LUC 445)	50,000 sqft		NA	4.91	27.27 [5]	5%
	Average Rate						
Residential	ITE (LUC 220)	1,480 keys	200 keys	0.49 / 0.5	0.56 / 0.65	6.14 / 6.7	5%
	Fitted Curve						
Hotel	ITE (LUC 310)	220 keys	480 keys	0.53	0.6	8.17	5%
	Average Rate						

1 – Silicon Valley rate: AM / PM – 0.31/0.3 per employee with 270 sqft to be considered for each employee
2 – Fitted Curve for Supermarket (LUC 950) is available for PM Peak Hour only
3 – Based on trip rate from DAP 2 and various restaurant types from ITE 9 TH Edition and ITE 10 TH Edition
4- trip rates based on fitted curve vary by area, hence two rates are provided for Parcel 4 and Parcel 5
5 – ITE 9th edition does not include a daily rate for LUC 445. To derive a daily rate, the peak hour rate is inflated based on the difference of daily to peak hour rates in the latest 11th edition of ITE
6 – No Public Transportation reduction is applied to the NE Parcel and part of Parcel 4 is also excluded from transit reduction

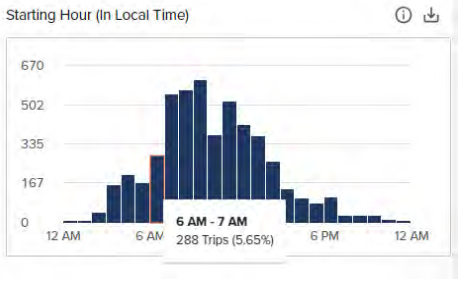
Internalization Reduction

Land-Use Type	Methodology	AM Internalization Reduction			PM Internalization Reduction			Daily Internalization Reduction [1]		
		In	Out	Total	In	Out	Total	In	Out	Total
Retail	EIR 2015	33%	30%	32%	38%	37%	37%	35%	33%	34%
Restaurants	EIR 2015	32%	32%	32%	37%	37%	37%	35%	34%	34%
Entertainment	EIR 2015	--	--	--	38%	33%	35%	38%	33%	35%
Residential	Blended Rate (MXD Tool , ITE)	16%	17%	17%	32%	24%	28%	25%	22%	23%
Hotel	EIR 2015	32%	33%	32%	38%	36%	37%	35%	35%	35%

1 – Daily Internalization Reduction is the average of AM and PM Internalization Reductions

	Base Conditions				Project Trips (Base Case - No Lick Mill Connection)								
Intersection ID	Street	Movement Direction	Movement Type	Lanes	Volume Project (AM Peak) Passenger Vehicles	Volume Project (PM Peak) Passenger Vehicles	Volume Project (Daily) Passenger Vehicles	Volume Project (AM Peak) Trucks	Volume Project (PM Peak) Trucks	Volume Project (Daily) Trucks	Volume Project (AM Peak) Total	Volume Project (PM Peak) Total	Volume Project (Daily) Total
8	Tasman Drive	WB	R	1	0	3	1000	0	2	12	0	5	1012
8	Tasman Drive	WB	T	2	171	656	1243	0	0	0	171	656	1243
8	Tasman Drive	WB	L	3	172	595	2083	0	0	0	172	595	2083
8	Great America Pkwy	SB	R	1	0	114	4107	0	3	34	0	117	4141
8	Great America Pkwy	SB	T	3	278	800	9103	1	3	45	279	803	9148
8	Great America Pkwy	SB	L	2	0	2	1000	0	2	12	0	4	1012
8	Tasman Drive	EB	R	1	0	0	0	0	0	0	0	0	0
8	Tasman Drive	EB	T	2	569	306	1243	0	0	0	569	306	1243
8	Tasman Drive	EB	L	2	0	77	4107	0	3	34	0	80	4141
8	Great America Pkwy	NB	R	1	509	2	2083	0	0	0	509	2	2083
8	Great America Pkwy	NB	T	3	984	690	9103	1	3	45	985	693	9148
8	Great America Pkwy	NB	L	2	0	0	0	0	0	0	0	0	0
8	Tasman Drive, west of GAPW	EB + WB			740	1153	10700	0	6	68	740	1159	10768
8	Great America Pkwy south of Tasman	SB + NB			1943	2087	22372	2	6	90	1945	2093	22462
8	Great America Pkwy north of Tasman	SB + NB			1262	1686	28420	2	16	182	1264	1702	28602
11	Tasman Dr	SW	R	1	592	102	7119	0	0	0	592	102	7119
11	Tasman Dr	SW	T	2	0	564	1237	0	2	12	0	566	1249
11	Tasman Dr	SW	L	1	0	0	0	0	0	0	0	0	0
11	Centennial Blvd	SE	R	1	0	123	3089	0	0	0	0	123	3089
11	Centennial Blvd	SE	T	1	0	0	0	0	0	0	0	0	0
11	Centennial Blvd	SE	L	2	266	938	7119	0	0	0	266	938	7119
11	Tasman Dr	NE	R	1	0	0	0	0	0	0	0	0	0
11	Tasman Dr	NE	T	2	1078	287	1237	0	2	12	1078	289	1249
11	Tasman Dr	NE	L	2	0	22	3089	0	0	0	0	22	3089
11	Centennial Blvd	NW	R	1	0	0	0	0	0	0	0	0	0
11	Centennial Blvd	NW	T	1	0	0	0	0	0	0	0	0	0
11	Centennial Blvd	NW	L	1	0	0	0	0	0	0	0	0	0
13	Tasman Dr	SW	R	1	133	59	149	0	0	0	133	59	149
13	Tasman Dr	SW	T	2	883	472	8119	0	2	12	883	474	8131
13	Calle del Sol	SE	R	1	55	35	440	0	0	0	55	35	440
13	Calle del Sol	SE	L	2	40	134	149	0	0	0	40	134	149
13	Tasman Dr	NE	T	2	266	938	8119	0	2	12	266	940	8131
13	Tasman Dr	NE	L	2	0	44	440	0	0	0	0	44	440
14	Tasman Dr	SW	R	1	0	0	0	0	0	0	0	0	0
14	Tasman Dr	SW	T	2	662	343	5350	0	1	5	662	344	5355
14	Tasman Dr	SW	L	2	0	0	0	0	0	0	0	0	0
14	Lick Mill Blvd	SE	R	1	0	0	0	0	0	0	0	0	0
14	Lick Mill Blvd	SE	T	1	0	0	0	0	0	0	0	0	0
14	Lick Mill Blvd	SE	L	2	0	0	0	0	0	0	0	0	0
14	Tasman Dr	NE	R	1	105	378	2918	0	1	7	105	379	2925
14	Tasman Dr	NE	T	2	200	693	5350	0	1	5	200	694	5355
14	Tasman Dr	NE	L	1	0	0	0	0	0	0	0	0	0
14	Lick Mill Blvd	NW	R	1	0	0	0	0	0	0	0	0	0
14	Lick Mill Blvd	NW	T	1	0	0	0	0	0	0	0	0	0
14	Lick Mill Blvd	NW	L	2	353	188	2918	0	1	7	353	189	2925
14	Tasman east of Lick Mill	WB + EB			862	1036	10700	0	2	10	862	1038	10710
59	Great America Pkwy	SB	R	1	0	0	0	0	0	0	0	0	0
59	Great America Pkwy	SB	T	3	1493	682	12821	0	0	0	1931	630	12821
59	Great America Pkwy	SB	L	2	226	119	311	8	11	236	378	263	547
59	Stadium Tech Center Access Drive	EB	R	1	0	0	0	0	0	0	0	0	0
59	Stadium Tech Center Access Drive	EB	T	1	0	0	0	0	0	0	0	0	0
59	Stadium Tech Center Access Drive	EB	L	1	0	0	0	0	0	0	0	0	0
59	Great America Pkwy	NB	R	1	22	1	0	1	8	94	27	18	94
59	Great America Pkwy	NB	T	3	517	1309	12820	0	0	0	659	1618	12820
59	Great America Pkwy	NB	L	1	0	0	0	0	0	0	0	0	0
59	Great America Way	WB	R	2	0	302	311	8	11	236	7	174	547
59	Great America Way	WB	T	1	0	0	0	0	0	0	0	0	0
59	Great America Way	WB	L	1	0	1	0	1	8	94	6	20	94
60	Great America Pkwy	SB	R	1	0	1	0	0	0	3	1	8	3
60	Great America Pkwy	SB	T	3	1493	682	12821	1	8	91	1937	642	12912
60	Great America Pkwy	SB	L	1	0	0	0	0	0	0	0	0	0
60	Old Mountain View-Alviso Rd	EB	R	1	22	21	486	0	0	0	52	28	486
60	Old Mountain View-Alviso Rd	EB	T	1	0	0	0	0	0	0	0	0	0
60	Old Mountain View-Alviso Rd	EB	L	2	3	1	0	0	0	3	8	4	3
60	Great America Pkwy	NB	R	1	0	0	0	0	0	0	0	0	0
60	Great America Pkwy	NB	T	3	536	1309	12368	1	8	91	678	1632	12459
60	Great America Pkwy	NB	L	1	7	40	486	0	0	0	16	55	486
60	Old Mountain View-Alviso Rd	WB	R	1	0	0	0	0	0	0	0	0	0
60	Old Mountain View-Alviso Rd	WB	T	1	0	0	0	0	0	0	0	0	0
60	Old Mountain View-Alviso Rd	WB	L	1	0	0	0	0	0	0	0	0	0
60	Great America Pkwy	NB + SB			2032	1993	25189	2	16	188	2624	2286	25377
61	City Place Pkwy	WB	R	2	72	1121	6654	0	0	0	187	1163	6654
61	City Place Pkwy	WB	T	1	0	0	0	0	0	0	0	0	0
61	City Place Pkwy	WB	L	2	149	279	7105	0	0	0	61	273	7105
61	Great America Pkwy	SB	R	1	0	0	0	0	0	0	0	0	0
61	Great America Pkwy	SB	T	3	672	318	6653	1	8	91	964	312	6744
61	Great America Pkwy	SB	L	2	842	385	6654	0	0	0	1024	358	6654
61	Driveway	EB	R	1	0	0	0	0	0	0	0	0	0
61	Driveway	EB	T	1	0	0	0	0	0	0	0	0	0
61	Driveway	EB	L	1	0	0	0	0	0	0	0	0	0
61	Great America Pkwy	NB	R	1	587	224	7105	0	0	0	265	254	7105
61	Great America Pkwy	NB	T	3	472	228	6652	1	8	91	508	524	6743
61	Great America Pkwy	NB	L	1	0	0	0	0	0	0	0	0	0
62	Second St	SW	R	1	473	228	6653	0	0	0	503	266	6653
62	Second St	SW	L	2	219	640	7106	0	0	0	198	668	7106
62	Great America Pkwy	SB	T	3	60	276	7105	1	8	91	65	283	7196
62	Great America Pkwy	SB	L	1	762	321	6653	0	0	0	960	302	6653
62	Great America Pkwy	NB	R	1	399	546	7106	0	0	0	312	653	7106
62	Great America Pkwy	NB	T	3	586	224	7104	1	8	91	269	511	7195
85	Lafayette St	SE	R	1	0	0	0	0	0	0	1	1	0
85	Lafayette St	SE	T	3	74	24	486	1	1	22	59	64	508
85	Great America Way	NE	R	1	229	119	311	9	19	330	390	281	641
85	Great America Way	NE	L	1	19	0	0	0	0	0	14	0	0
85	Lafayette St	NB	T	2	3	47	486	1	1	22	3	125	508
85	Lafayette St	NB	L	1	0	302	311	9	19	330	12	194	641
85	Lafayette St	NB + SB			77	373	1283	11	21	374	75	384	1657
86	Future Driveway to NE Parcel North	SB	R	2	3	207	173	10	20	352	14	205	525
86	Future Driveway to NE Parcel North	SB	L	2	0	250	167	5	6	128	3	11	295
86	Lafayette St	SE	T	2	66	143	624	0	0	0	340	325	624
86	Lafayette St	SE	L	1	237	0	173	10	20	352	110	20	525
86	Lafayette St	NB	R	2	61	68	167	5	6	128	3	5	295
86	Lafayette St	NB	T	2	1	143	452	0	0	0	1	114	452
87	Jug Handle	SW	R	2	61	211	512	0	0	0	1	114	512
87	Jug Handle	SW	L	2	527	1151	10095	0	0	0	366	1139	10095
87	Lafayette St	SE	T	2	1	92	279	5	6	128	230	115	407
87	Lafayette St	SE	L	1	66	301	512	0	0	0	114	220	512
87	Lafayette St	NW	R	2	1153	575	8135	0	0	0	1114	849	8135
87	Lafayette St	NW	T	2	1	1	0	5	6	128	3	6	128
88	Future Driveway to NE Parcel South	SW	R	2	151	33	2133	0	0	0	154	319	2133
88	Future Driveway to NE Parcel South	SW	L	2	87	300	967	0	0	0	88	287	967
88	Lafayette St	SE	T	2	317	1140	8242	5	6	128	316	1047	8370
88	Lafayette St	SE	L	2	210	103	2133	0	0	0	279	208	2133
88	Lafayette St	NW	R	2	292	175	967	0	0	0	437	132	967
88	Lafayette St	NW	T	2	1003	543	8242	5	6	128	963	536	8370
90	Calle de Luna	WB	R	1	133	103	455	0	0	0	266	61	455
90	Calle de Luna	WB	L	1	0	0	203	0	0	0	0	85	203
90	Lafayette St	SE	T	2	324	1172	8754	5	6	128	367	1214	8882
90	Lafayette St	SE	L	1	40	136	455	0	0	0	37	120	455
90	Lafayette St	NW	R	1	55	34	203	0	0	0	143	40	203
90	Lafayette St	NW	T	2	1024	550	8551	5	6	128	1134	607	8679

					Combined (Base Case - No Lick Mill Connection)					
Intersection ID	Street	Movement Direction	Movement Type	Lanes	Volume Background + Project (AM Peak) Total	Volume Background + Project (PM Peak) Total	Volume Cumulative + Project (AM Peak) Total	Volume Cumulative + Project (PM Peak) Total	Volume Background + Project (Daily) Total	Volume Cumulative + Project (Daily) Total
8	Tasman Drive	WB	R	1	147	328	147	125	2381	2737
8	Tasman Drive	WB	T	2	723	711	1040	771	6867	8404
8	Tasman Drive	WB	L	3	505	781	698	995	6143	9083
8	Great America Pkwy	SB	R	1	124	456	658	565	4792	9208
8	Great America Pkwy	SB	T	3	750	1158	1399	1209	18987	22215
8	Great America Pkwy	SB	L	2	124	382	115	394	3918	4341
8	Tasman Drive	EB	R	1	33	52	33	52	570	570
8	Tasman Drive	EB	T	2	675	685	978	1057	6424	7860
8	Tasman Drive	EB	L	2	105	422	167	920	4503	9745
8	Great America Pkwy	NB	R	1	524	536	452	828	6754	8976
8	Great America Pkwy	NB	T	3	1480	989	1540	1739	17282	21403
8	Great America Pkwy	NB	L	2	326	84	326	84	2752	2752
8	Tasman Drive, west of GAPW	EB + WB								
8	Great America Pkwy south of Tasman	SB + NB								
8	Great America Pkwy north of Tasman	SB + NB								
11	Tasman Dr	SW	R	1	452	161	579	449	8220	10058
11	Tasman Dr	SW	T	2	1675	847	571	703	13189	7040
11	Tasman Dr	SW	L	1	6	21	21	0	181	141
11	Centennial Blvd	SE	R	1	83	100	100	0	4317	3760
11	Centennial Blvd	SE	T	1	0	1	1	0	7	7
11	Centennial Blvd	SE	L	2	295	1096	406	1288	8092	9669
11	Tasman Dr	NE	R	1	7	33	33	0	268	221
11	Tasman Dr	NE	T	2	1194	1605	3024	916	13544	20994
11	Tasman Dr	NE	L	2	135	99	186	284	4263	4112
11	Centennial Blvd	NW	R	1	4	26	26	0	201	174
11	Centennial Blvd	NW	T	1	0	10	10	0	67	67
11	Centennial Blvd	NW	L	1	9	22	22	0	208	148
13	Tasman Dr	SW	R	1	225	170	225	288	2800	3592
13	Tasman Dr	SW	T	2	2076	983	2544	1187	18628	22668
13	Calle del Sol	SE	R	1	248	154	324	141	1722	3386
13	Calle del Sol	SE	L	2	99	166	388	295	1928	3820
13	Tasman Dr	NE	T	2	546	2137	555	2661	17534	21097
13	Tasman Dr	NE	L	2	92	132	89	221	1272	2259
14	Tasman Dr	SW	R	1	105	42	285	327	188	3349
14	Tasman Dr	SW	T	2	1493	858	1841	839	15489	17986
14	Tasman Dr	SW	L	2	132	237	301	308	2477	4087
14	Lick Mill Blvd	SE	R	1	64	87	96	247	148	510
14	Lick Mill Blvd	SE	T	1	31	81	147	153	268	2000
14	Lick Mill Blvd	SE	L	2	28	115	355	387	215	4819
14	Tasman Dr	NE	R	1	165	767	321	1158	5972	9368
14	Tasman Dr	NE	T	2	477	1659	636	1706	14744	15872
14	Tasman Dr	NE	L	1	47	45	31	166	168	477
14	Lick Mill Blvd	NW	R	1	335	243	345	421	3879	5141
14	Lick Mill Blvd	NW	T	1	78	28	112	138	215	1195
14	Lick Mill Blvd	NW	L	2	619	255	674	463	5267	7207
14	Tasman east of Lick Mill	WB + EB				2170				
59	Great America Pkwy	SB	R	1	68	7	68	7	503	503
59	Great America Pkwy	SB	T	3	2673	1370	3058	1326	23613	26673
59	Great America Pkwy	SB	L	2	444	215	491	207	2500	2889
59	Stadium Tech Center Access Drive	EB	R	1	9	23	9	23	215	215
59	Stadium Tech Center Access Drive	EB	T	1	3	82	3	82	570	570
59	Stadium Tech Center Access Drive	EB	L	1	2	60	2	60	416	416
59	Great America Pkwy	NB	R	1	82	514	102	1051	3604	7638
59	Great America Pkwy	NB	T	3	908	2631	1036	3598	21927	30350
59	Great America Pkwy	NB	L	1	36	21	36	21	383	383
59	Great America Way	WB	R	2	202	412	202	440	2983	2983
59	Great America Way	WB	T	1	57	9	57	9	443	443
59	Great America Way	WB	L	1	176	84	1078	136	1779	8188
60	Great America Pkwy	SB	R	1	423	82	571	134	3386	4735
60	Great America Pkwy	SB	T	3	2395	1464	3535	1420	22415	30543
60	Great America Pkwy	SB	L	1	36	11	36	11	315	315
60	Old Mountain View-Alviso Rd	EB	R	1	44	167	44	167	1593	1593
60	Old Mountain View-Alviso Rd	EB	T	1	8	77	8	77	570	570
60	Old Mountain View-Alviso Rd	EB	L	2	76	537	136	744	4070	5909
60	Great America Pkwy	NB	R	1	85	11	85	45	644	872
60	Great America Pkwy	NB	T	3	939	2590	1027	3887	21056	31674
60	Great America Pkwy	NB	L	1	138	93	138	92	1674	1674
60	Old Mountain View-Alviso Rd	WB	R	1	5	49	5	49	362	362
60	Old Mountain View-Alviso Rd	WB	T	1	4	10	4	10	94	94
60	Old Mountain View-Alviso Rd	WB	L	1	10	67	36	67	517	691
60	Great America Pkwy	NB + SB								
61	City Place Pkwy	WB	R	2	143	1101	152	1267	6654	6654
61	City Place Pkwy	WB	T	1	0	0	0	0	0	0
61	City Place Pkwy	WB	L	2	81	218	172	252	7105	7105
61	Great America Pkwy	SB	R	1	0	0	0	0	0	0
61	Great America Pkwy	SB	T	3	1941	1322	3093	1302	20422	28637
61	Great America Pkwy	SB	L	2	751	514	751	490	6654	6654
61	Driveway	EB	R	1	0	0	0	0	0	0
61	Driveway	EB	T	1	0	0	0	0	0	0
61	Driveway	EB	L	1	0	0	0	0	0	0
61	Great America Pkwy	NB	R	1	514	76	510	225	7105	7105
61	Great America Pkwy	NB	T	3	1176	1563	1147	2690	18018	27904
61	Great America Pkwy	NB	L	1	0	0	0	0	0	0
62	Second St	SW	R	1	440	301	413	261	6653	6653
62	Second St	SW	L	2	215	494	243	540	7106	7106
62	Great America Pkwy	SB	T	3	1196	1216	2443	1251	20874	29089
62	Great America Pkwy	SB	L	1	826	323	822	302	6653	6653
62	Great America Pkwy	NB	R	1	486	681	504	532	7106	7106
62	Great America Pkwy	NB	T	3	1249	1337	1244	2654	18470	28356
85	Lafayette St	SE	R	1	23	9	568	15	215	3913
85	Lafayette St	SE	T	3	244	523	243	530	4917	4985
85	Great America Way	NE	R	1	330	624	502	1064	4171	8755
85	Great America Way	NE	L	1	16	59	24	276	416	1872
85	Lafayette St	NB	T	2	614	246	828	525	5817	9199
85	Lafayette St	NB	L	1	321	319	721	421	3191	6379
85	Lafayette St	NB + SB								
86	Future Driveway to NE Parcel North	SB	R	2	13	188	13	242	525	525
86	Future Driveway to NE Parcel North	SB	L	2	5	8	174	10	295	295
86	Lafayette St	SE	T	2	440	1128	574	1576	8557	13241
86	Lafayette St	SE	L	1	133	19	5	19	525	525
86	Lafayette St	NB	R	2	5	6	7	6	295	295
86	Lafayette St	NB	T	2	924	435	1540	766	8714	15324
87	Jug Handle	SW	R	2	8	49	2	90	512	512
87	Jug Handle	SW	L	2	485	1288	545	1226	10095	10095
87	Lafayette St	SE	T	2	374	1105	510	1557	8340	13011
87	Lafayette St	SE	L	1	71	31	70	27	512	512
87	Lafayette St	NW	R	2	1033	722	1094	672	8135	8135
87	Lafayette St	NW	T	2	921	392	1542	682	8390	14980
88	Future Driveway to NE Parcel South	SW	R	2	149	286	158	260	2133	2133
88	Future Driveway to NE Parcel South	SW	L	2	88	333	77	306	967	967
88	Lafayette St	SE	T	2	557	2241	702	2572	16303	20974
88	Lafayette St	SE	L	2	302	151	353	211	2133	2133
88	Lafayette St	NW	R	2	376	194	281	135	967	967
88	Lafayette St	NW	T	2	1805	828	2478	1094	16632	23222
90	Calle de Luna	WB	R	1	169	79	458	56	1549	3898
90	Calle de Luna	WB	L	1	91	380	486	658	3263	7881
90	Lafayette St	SE	T	2	535	2307	693	2430	16754	19144
90	Lafayette St	SE	L	1	39	166	70	346	1831	2173
90	Lafayette St	NW	R	1	381	252	340	522	3035	5814
90	Lafayette St	NW	T	2	1839	851	1892	1083	16357	17605



Hourly Volumes

Street Name	Location	Direction	Project											
			AM Peak Hour Passenger Vehicles	AM Peak Hour Trucks	PM Peak Hour Passenger Vehicles	PM Peak Hour Trucks	Nighttime (6-7 AM) Passenger Vehicles	Nighttime (6-7 AM) Trucks	Nighttime (10-11 PM) Passenger Vehicles	Nighttime (10-11 PM) Trucks	Nighttime (11 PM-12 AM) Passenger Vehicles	Nighttime (11 PM-12 AM) Trucks	Daily Passenger Vehicles	Daily Trucks
Lafayette Street	North of Great America Way	Northbound	22	1	47	1	13	1	9	0	4	0	486	22
		Southbound	74	1	24	1	13	1	9	0	4	0	486	22
	Between Great America Way and Future Access (North)	Northbound	3	10	349	20	21	15	15	0	7	1	797	352
		Southbound	303	10	143	20	21	15	15	0	7	1	797	352
	South of Future Access (North)	Northbound	62	5	211	6	16	6	12	0	6	0	619	128
		Southbound	66	5	393	6	21	6	15	0	7	0	791	128
Tasman Drive	West of Great America Pkwy	Eastbound	569	0	383	3	141	1	103	0	49	0	5350	34
		Westbound	171	0	770	3	141	1	103	0	49	0	5350	34
	Between Great America Pkway and Lick Mill Blvd	Eastbound	305	0	1071	2	218	1	159	0	76	0	8268	12
		Westbound	1015	0	531	2	218	1	159	0	76	0	8268	12
	East of Lick Mill Blvd	Eastbound	200	0	693	1	141	0	103	0	49	0	5350	5
		Westbound	662	0	343	1	141	0	103	0	49	0	5350	5
Lick Mill Blvd	South of Tasman Drive	Northbound	353	0	188	1	77	0	56	0	27	0	2918	7
		Southbound	105	0	378	1	77	0	56	0	27	0	2918	7
Great America Pkway	North of Great America Way	Northbound	517	8	1611	11	346	10	253	0	120	0	13131	236
		Southbound	1719	8	801	11	346	10	253	0	120	0	13132	236
	Between Great America Way and Mountain View - Alviso Rd	Northbound	539	1	1310	8	338	4	247	0	117	0	12820	94
		Southbound	1493	1	683	8	338	4	247	0	117	0	12821	94
	Between Mountain View-Alviso Rd and Tasman Drive	Northbound	984	1	770	8	374	4	274	0	130	0	14210	91
		Southbound	278	1	916	8	374	4	274	0	130	0	14210	91
	South of Tasman Drive	Northbound	1493	1	692	3	295	2	215	0	102	0	11186	45
		Southbound	450	1	1395	3	295	2	215	0	102	0	11186	45
Great America Way	Between Great America Pkway and Lafayette Street	Eastbound	248	9	119	19	8	14	6	0	3	1	311	330
		Westbound	0	9	302	19	8	14	6	0	3	1	311	330
Mountain View - Alviso Road	West of Great America Pkwy	Eastbound	25	0	22	0	13	0	9	0	4	0	486	3
		Westbound	7	0	41	0	13	0	9	0	4	0	486	3
US 237 Fwy WB	North of Great America Way	Inbound	921	4	320	4	167	5	122	0	58	0	6323	114
		Outbound	277	4	644	4	167	5	122	0	58	0	6322	114
US 237 Fwy EB	North of Great America Way	Inbound	798	4	481	7	179	5	131	0	62	0	6809	122
		Outbound	240	4	967	7	179	5	131	0	62	0	6809	122
Future Access (North)	East of Lafayette Street	Inbound	298	15	68	26	9	21	7	0	3	1	340	480
		Outbound	3	15	457	26	9	21	7	0	3	1	340	480
Future Access (South)	East of Lafayette Street	Inbound	502	0	278	0	82	0	60	0	28	0	3100	0
		Outbound	238	0	333	0	82	0	60	0	28	0	3100	0

ITE				Weekday	AM Peak			PM Peak			Daily
Code	ITE Land Use	Units		Daily Trips	In	Out	Total	In	Out	Total	Total (in/out balanced)
150	Warehousing		Trip Rates and Directional		77%	23%	0.17	28%	72%	0.18	1.71
	1,600,000	Square Feet	Vehicle Trips		210	60	270	80	210	290	2735
150	Warehousing		Trip Rates and Directional		52%	48%	0.02	52%	48%	0.03	0.6
	1,600,000	Square Feet	Truck Trips		15	15	30	25	25	50	960

ITE				Weekday	AM Peak			PM Peak			Daily
Code	ITE Land Use	Units		Daily Trips	In	Out	Total (in/out balanced)	In	Out	Total	Total (in/out balanced)
140	Manufacturing		Trip Rates and Directional		76%	24%	0.68	31%	69%	0.74	4.75
	1,600,000	Square Feet	Vehicle Trips		830	260	1090	365	820	1185	7600
140	Manufacturing		Trip Rates and Directional		56%	44%	0.03	41%	59%	0.03	0.45
	1,600,000	Square Feet	Truck Trips		30	20	50	20	30	50	720

APPENDIX C
AERMOD FILES (PROVIDED ELECTRONICALLY)

Appendix D

Related Santa Clara Scheme C Noise Report

RELATED SANTA CLARA

Noise Technical Report

Prepared for
City of Santa Clara

October 2024

ESA

RELATED SANTA CLARA

Noise Technical Report

Prepared for
City of Santa Clara

October 2024

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ESA

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RELATED SANTA CLARA SCHEME C PROJECT
Noise Technical Report

1 Introduction and Scheme C Project Description

This technical report has been prepared to assess the potential noise and vibration impacts associated with the Related Santa Clara Revised Project (Scheme C) as a resource document in support of the revised project's compliance with the California Environmental Quality Act (CEQA).

1.1 Approved Project and CEQA Documents

The City Place Project analyzed in the 2016 EIR (Approved Project) includes conversion of 240-acres of City-owned property at 5155 Stars & Stripes Drive near Levi's Stadium in Santa Clara, into a multi-phase, mixed-use development.[1,2] As evaluated in the 2016 EIR, the Approved Project anticipates nearly 9.2 million gross square feet of development allocated over five parcels. Anticipated development includes 1,680 residential units; 700 hotel rooms; and approximately 5.4 million square feet of office space, 1.1 million square feet of retail uses, 250,000 square feet of food and beverage uses, 190,000 square feet of entertainment venues, and 96 acres of open space. The Approved Project building height limit across the project site is 219 feet above mean sea level (msl) which is approximately 17-stories considering the finished grade of the on-site streets.[3]

Since EIR certification and project approval in 2016, the Phase 1 Development Area Plan (DAP) for Parcel 5 was approved by the City Council on March 24, 2020. An Addendum to the EIR was prepared for this DAP. The Community Development Director granted architectural review approval on March 5, 2021. The City Council approved the Phase 2 DAP for right-of-way improvements and five blocks on the southern portion of Parcel 4; completion of the Phase 2 DAP's architectural approval process is in progress. An Addendum to the EIR was also prepared for this DAP. A CEQA Addendum was also prepared for the City Place Revised Soil Import and Earthwork Plans Project in 2021. Subsequent discretionary approvals are expected to be necessary for Approved Project build-out.

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1 Although the City Place Santa Clara Project is now referred to as "Related Santa Clara," this addendum uses "City Place Santa Clara" as that is consistent with the naming in the CEQA documents and the Master Community Plan.

2 For the purposes of this CEQA Addendum analysis, the City Place Santa Clara Project EIR (2016 EIR) for the City Place Santa Clara Project (City Place Project) comprises the *City Place Santa Clara Draft Environmental Impact Report*, October 2015 (DEIR); the *City Place Santa Clara Final Environmental Impact Report*, April 2016 (FEIR), and subsequent addenda to the EIR.

3 The maximum height of the Approved Project at 17 stories, or 190 feet, is measured against the finished grade of the on-site streets. This is within Federal Aviation Administration height limits; the proposed buildings would not exceed 219 feet above msl.

1.2 Revised Project / Scheme C

Related now proposes changes to the Approved Project, including by: i) introducing a new use (i.e., 1.6 million square feet of light industrial uses) in the northeastern area of the project site (Parcels 1 and 2), and ii) increasing the density of approved uses in the southwestern area of the site (Parcel 4/City Center). Scheme C would retain the total approved gross square footage (see **Figure 1**). However, the proposed changes would introduce a new land use classification and exceed the Master Community Plan's density transfer provision allowing up to 20 percent deviation from the base entitlement.[4]

As a result, Scheme C would intensify the density of office development on Parcel 4 City Center by 1.626 million square feet within the existing parcel dimensions and, hence, the increase in building area would largely accommodated with additional height. As noted in Section 4.1 of the CEQA Addendum, the proposed Master Community Plan Scheme C Supplement would revise the formulation of the height limits to permit towers on Parcel 4 of up to approximately 10-12 stories, with a maximum building height consistent with ALUC regulations and Federal Aviation hazard limits pursuant to FAA Federal Aviation Regulations, FAR Part 77 criteria. Although this revision would remove the 219 feet above msl height limit on Parcel 4, the change is not anticipated to result in a notable change to final building heights proposed for Parcel 4 under the Approved Project. Further, the revised height limits would remain consistent with applicable General Plan Policy 5.10.5-P30 and General Plan Policy 5.10.5-P33 that require compatibility with the Airport Land Use Compatibility Plan and Federal Aviation Administration Federal Aviation Regulations, FAR Par 77 criteria hazard height limits at San José Mineta International Airport, respectively.

Development of Parcels 1 and 2 under Scheme C would change from 1.6 million square feet of office to an equivalent amount of industrial/warehouse use. This analysis evaluates noise that may be associated with 24-hour truck operations assumed for the warehouse/distribution facilities, while also considering potential industrial uses. Operational noise from stationary sources, such as generators, loading and unloading, Transport Refrigeration Unit (TRU) operations and other mechanical equipment, are assessed for a single land use scenario assuming a combination of manufacturing, which would generate noise from operation of multiple generators, and warehouse/distribution facilities, which would generate noise from on-site truck traffic and loading/unloading activities.

Data used to prepare this analysis were obtained from the 2016 EIR as well as from the City of Santa Clara 2010-2035 General Plan; the City of Santa Clara (City) Municipal Code; *Transit Noise and Vibration Impact Assessment* by the Federal Transit Administration (FTA, 2018), and the California Department of Transportation (Caltrans) *Technical Noise Supplement to the Traffic Noise Analysis Protocol* (Caltrans, 2013), and by measuring and modeling existing and future noise levels at the project site and the surrounding land uses.

[4] Densities shift when comparing DAP 2 with Scheme C for Blocks 4B (WE), 4D (WK, WL), 4E/F (WF, WG) and 4H(WH).

SOURCE: Related Santa Clara 2023

Related Santa Clara Scheme C

Figure 1
Scheme C Project Illustrative Plan

ESA

1.3 Scheme C Project Location

The Scheme C project site is the same as the project site for the Approved Project. The project site is located on seven City-owned parcels (assessor's parcel numbers [APNs] 104-03-036, 104-03-037, 104-01-102, 097-01-039, 097-01-073, 104-03-038, and 104-03-039), totaling approximately 240 acres. The project site is generally located north of Tasman Drive, east of Great America Parkway and San Tomas Aquino Creek, west of the Guadalupe River, and south of Great America Way and State Route (SR) 237. As noted above, under the 2016 EIR, the project site is divided into five development parcels and the Eastside Retention Basin.

2 Characteristics of Noise and Vibration

2.1 Noise Principles and Descriptors

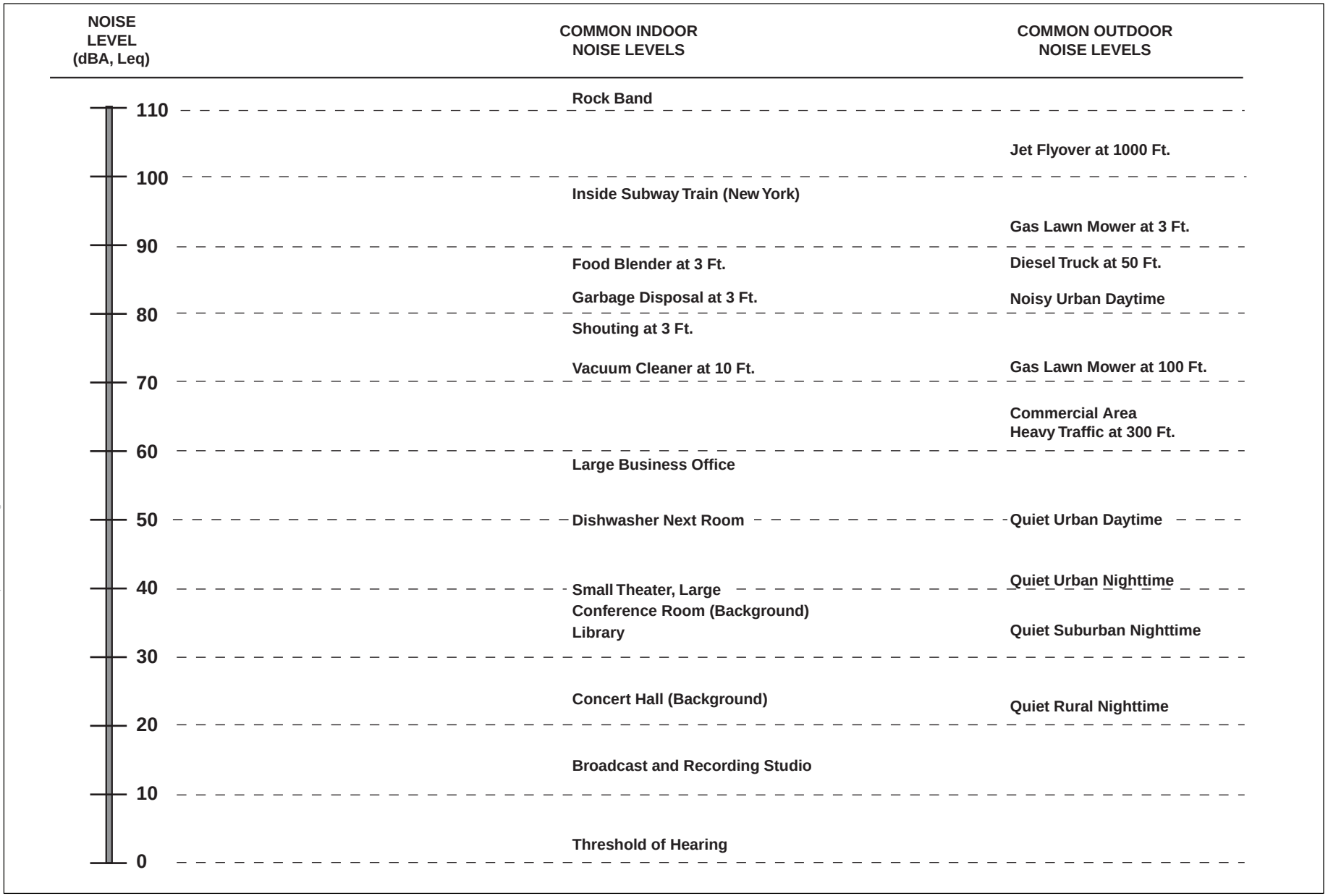
Pressure waves traveling through air exert a force registered by the human ear as sound. Noise is generally defined as unwanted sound. Sound, traveling in the form of waves from a source, exerts a sound pressure level (referred to as sound level) that is measured in decibels (dB), which is the standard unit of sound amplitude measurement. The dB scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound, with 0 dB corresponding roughly to the threshold of human hearing and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude. When all the audible frequencies of a sound are measured, a sound spectrum is plotted consisting of a range of frequency spanning 20 to 20,000 Hz. The sound pressure level, therefore, constitutes the additive force exerted by a sound corresponding to the sound frequency/sound power level spectrum.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that deemphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to extremely low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements. Some representative noise sources and their corresponding A-weighted noise levels are shown on **Figure 2**. All noise levels presented in this report are A-weighted unless otherwise stated.

2.2 Noise Exposure and Community Noise

An individual's noise exposure is a measure of noise over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented on Figure 2 are representative of measured noise at a given instant in time; however, they rarely persist consistently over a long period of time.



2019/D2019011172.02 - Santa Clara Related Revised Land Use/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: California Department of Transportation (Caltrans), *Technical Noise Supplement to the Traffic Noise Analysis Protocol, September 2013*

Related Santa Clara Scheme C

Figure 2
Effects of Noise on People

ESA

Rather, community noise varies continuously over a period of time with respect to the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise exposure, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic. What makes community noise variable throughout a day, besides the slowly changing background noise, is the addition of short-duration, single-event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment change the community noise level from instant to instant, requiring the measurement of noise exposure over a period of time to legitimately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The following are the most frequently used noise descriptors:

- **L_{eq}:** The equivalent-continuous sound level, used to describe noise over a specified period of time in terms of a single numerical value. The L_{eq} of a time-varying signal and that of a steady signal are the same if they deliver the same acoustic energy over a given time. May also be referred to as the "average sound level."
- **L_{max}:** The maximum, instantaneous noise level experienced during a given period of time.
- **L_{min}:** The minimum, instantaneous noise level experienced during a given period of time.
- **L_{dn}:** The average A-weighted noise level during a 24-hour day, obtained after 10 dB are added to noise levels measured between 10 p.m. and 7 a.m. to account for nighttime noise sensitivity. Also referred to as the "day-night average noise level" (DNL), the L_{dn} is the metric used by the Noise Element of the *City of Santa Clara General Plan* (General Plan) for assessing the land use compatibility of non-aviation sources.
- **CNEL:** The community noise equivalent level. This is the average A-weighted noise level during a 24-hour day that is obtained after 5 dB are added to measured noise levels between 7 p.m. and 10 p.m. and 10 dB are added to noise levels between 10 p.m. and 7 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The CNEL is the metric generally used for assessment of aircraft noise. The result is normally about 0.5 dBA higher than L_{dn} using the same 24-hour data.[5]

2.3 Noise Attenuation

Stationary "point" sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on the topography of the area and environmental conditions (e.g., atmospheric conditions and noise barriers, vegetative or manufactured). Widely distributed noise, such as that generated by a large industrial facility, spread over many acres, or by a street with moving vehicles (known as a "line" source), would typically attenuate at a lower rate—approximately 3 to 4.5 dBA each time the distance doubles from the source, which also depends on environmental conditions (Caltrans, 2009). Noise from large construction sites would exhibit characteristics of both "point" and "line" sources, and attenuation would therefore generally range between 4.5 and 7.5 dBA each time the distance doubles.

[5] California Department of Transportation, *Technical Noise Supplement*, September 2013

3 Effects of Noise on People

Noise is generally loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity that is a nuisance or disruptive. The effects of noise on people can be placed into four general categories:

- Subjective effects (e.g., dissatisfaction, annoyance);
- Interference effects (e.g., communication, sleep, and learning interference);
- Physiological effects (e.g., startle response); and
- Physical effects (e.g., hearing loss).

Although exposure to high noise levels has been demonstrated to cause physical and physiological effects, the principal human responses to typical environmental noise exposure are related to subjective effects and interference with activities. Interference effects of environmental noise refer to those effects that interrupt daily activities and include interference with human communication activities, such as normal conversations, watching television, telephone conversations, and interference with sleep. Sleep interference effects can include both awakening and arousal to a lesser state of sleep. With regard to the subjective effects, the responses of individuals to similar noise events are diverse and are influenced by many factors, including the type of noise, the perceived importance of the noise, the appropriateness of the noise to the setting, the duration of the noise, the time of day and the type of activity during which the noise occurs, and individual noise sensitivity.

Overall, there is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction on people. A wide variation in individual thresholds of annoyance exists, and different tolerances to noise tend to develop based on an individual's past experiences with noise. Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted (i.e., comparison to the ambient noise environment). In general, the more a new noise level exceeds the previously existing ambient noise level, the less acceptable the new noise level will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships generally occur (Caltrans, 2013):

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived;
- Outside of the laboratory, a 3 dB change in noise levels is considered to be a barely perceivable difference;
- A change in noise levels of 5 dB is considered to be a readily perceivable difference; and
- A change in noise levels of 10 dB is subjectively heard as doubling of the perceived loudness.

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Since the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, but rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dB, the combined sound level would be 53 dB, not 100 dB.

3.2 Fundamentals of Vibration

As described in the Federal Transit Administration's (FTA) Transit Noise and Vibration Impact Assessment (FTA, 2018), groundborne vibration can be a serious concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to airborne noise, groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving, and operation of heavy earth-moving equipment.

There are several different methods that are used to quantify vibration. The peak particle velocity (PPV) is defined as the maximum instantaneous peak of the vibration signal. The PPV is most frequently used to describe vibration impacts to buildings. The root mean square (RMS) amplitude is most frequently used to describe the effect of vibration on the human body. The RMS amplitude is defined as the average of the squared amplitude of the signal. Decibel notation (VdB) is commonly used to measure RMS. The relationship of PPV to RMS velocity is expressed in terms of the "crest factor," defined as the ratio of the PPV amplitude to the RMS amplitude. Peak particle velocity is typically a factor of 1.7 to 6 times greater than RMS vibration velocity (FTA, 2018). The decibel notation acts to compress the range of numbers required to describe vibration. Typically, groundborne vibration generated by human-made activities attenuates rapidly with distance from the source of the vibration. Sensitive receptors for vibration include structures (especially older masonry structures), people (especially residents, the elderly, and sick), and vibration sensitive equipment.

The effects of groundborne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. Building damage is not a factor for most projects, with the occasional exception of blasting and pile-driving during construction. Annoyance from vibration often occurs when the vibration levels exceed the threshold of perception by only a small margin. A vibration level that causes annoyance will be well below the damage threshold for normal buildings. The FTA measure of the threshold of architectural damage for conventional sensitive structures is 0.2 in/sec PPV (FTA, 2018).

In residential areas, the background vibration velocity level is usually around 50 VdB (approximately 0.0013 in/sec PPV). This level is well below the vibration velocity level threshold of perception for humans, which is approximately 65 VdB. A vibration velocity level of 75 VdB is considered to be the approximate dividing line between barely perceptible and distinctly perceptible levels for many people (FTA, 2018).

4. Environmental Setting

4.1 Existing Ambient Noise Levels

The project site is located on either side of Lafayette Street north of Taman Drive and south of Great America Way. Existing uses include a motocross track at the northern end of Parcel 1 and former Santa Clara Golf & Tennis Club on the remaining areas which is no longer in active use.

Surrounding uses include residential uses across the Guadalupe River, which forms the eastern boundary of Parcels 1 and 2. Additionally, newly constructed residential uses, some of which are in the final stage

of construction and currently unoccupied, are located on Calle del Mundo, south of Parcels 1 and 2. A retention basin and office building along Great America Way are immediately north of Parcels 1 and 2 and Parcel 3, respectively. State Route (SR) 237 forms the northern border. San Tomas Aquino Creek is west of Parcel 4, across which lie Santa Clara Convention Center and office land uses.

The project site is surrounded by a network of regional transportation facilities that influence the local noise environment. Transit access is provided by the Santa Clara Valley Transportation Authority (VTA) which runs a light rail line along Tasman Drive. State Route (SR) 237 is 500 feet north of the northernmost portion of Parcel 1. Levi's Stadium is 800 feet south of Parcel 4 and contributes occasional event noise inclusive of traffic increases.

The San José Mineta International Airport (Airport) is also located approximately 2.8 miles southeast of the site boundary. Portions of Parcel 4 and Parcel 5 are located within the 65 CNEL contour of the San José Mineta International Airport, as designated in the 2011 Comprehensive Land Use Plan (CLUP) for the Airport. However, this is no longer the case for the recently adopted 2024 CLUP. Please refer to Section 4.4, *Regulatory Setting*, for more detail on the updated CLUP.

Long-term and short-term noise level measurements were conducted in the project vicinity in 2015 for the 2016 EIR. Additionally new long-term measurements were conducted in April of 2024 to establish existing noise environment and supplement/update the 2015 data. The 2024 noise surveys were conducted using Larson Davis Model LxT2 sound level meters that were calibrated before use and operated according to the manufacturer's written specifications. These measurements included both weekdays and weekends. The measured average noise level (L_{eq}) during different averaging periods are shown in **Table 1**. The measurement locations are identified on **Figure 3**.

TABLE 1
BACKGROUND NOISE ENVIRONMENTS IN THE PROJECT VICINITY

Long-Term (LT) Noise Monitoring Location	Noise Levels (dBA)				Primary Noise Sources
	Day-Night Noise Level	24-Hour L_{eq}	Daytime[a] Hourly Average L_{eq}	Nighttime[b] Hourly Average L_{eq}	
LT-1: Southern property line of Parcel 2, adjacent to the residences that front Calle del Mundo.	61	56	58	53	Vehicle traffic and rail operations on West Tasman Drive and along Lafayette Street
LT-2: Eastern Property line of Parcel 1, approximately 400 feet from Oak Crest Estates residences	62	58	61	54	Vehicle traffic on SR 237
LT-3: Merriweather Lane residences, approximately 500 feet east of the project site.	62	NA	NA	NA	Distant vehicle traffic on SR 237
LT-4: Stonegate Apartments, approximately 430 feet east of the project site.	62	NA	NA	NA	Vehicle traffic and rail operations on West Tasman Drive along Lafayette Street

Notes: dBA = A-weighted decibels; L_{eq} = equivalent-continuous sound level; NA: Noise metrics not published in 2016 EIR or appendix.

Noise levels at LT-1 and LT-2 were monitored in 2024. Noise levels at LT-3 and LT-4 were monitored for the 2016 EIR and were collected in 2015.

a. Daytime hours are considered to be 7 a.m. to 10 p.m.
b. Nighttime hours are considered to be 10 p.m. to 7 a.m.

SOURCE: Data compiled by Environmental Science Associates in 2024.

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SOURCE: ESA, 2024; Google Earth, 2024

Related Santa Clara Scheme C

Figure 3
Noise Measurement Locations

ESA

Using data from the *2024 Related Santa Clara Traffic Analysis Memo* (Scheme C Traffic Analysis), roadside noise levels along roadway segments near the project site were modeled for background 2018/2019 conditions to provide baseline weekday noise level estimates for the roadway segments near the project site. Although the 2016 EIR analyzed 2015 peak hour traffic volumes with and without the Approved Project, this analysis relies on the 2018/2019 background volumes utilized in the Scheme C Traffic Analysis, which is background data collected pre-pandemic. The 2015 peak hour volumes are greater than the 2018/2019 background volumes. Therefore, this analysis is suitably conservative because the use of 2018/2019 background volumes yields a greater delta when comparing noise levels of Scheme C plus background traffic volumes to those without Scheme C. The background 2018/2019 roadside noise levels during the weekday peak commute hour are presented in **Table 2**. These modeled noise levels reflect only the noise generated by traffic on the identified roadway segments; they do not include other sources in the area, such as rail and highway noise where these other sources are nearby.

TABLE 2
BACKGROUND TRAFFIC NOISE ALONG ROADS IN THE PROJECT VICINITY

Roadway Segment	Background Ldn (dBA)
Weekday Noise Levels	
Lafayette Street North of Great America Way	65.9
Lafayette Street between Great America Way and Future Driveway to Parcel 1	67.5
Lafayette Street South of Future Driveway to Parcel 1	67.5
Tasman Drive west of Great America Parkway	67.6
Tasman Drive between Great America Parkway and Lick Mill Boulevard	68.7
Tasman Drive east of Lick Mill Boulevard	69.1
Lick Mill Boulevard south of Tasman Drive	64.4
Great America Parkway North of Great America Way	71.3
Great America Parkway between Great America Way and Mountain View-Alviso Road	70.8
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	69.8
Great America Parkway south of Tasman Drive	71.3
SR 237 West of Great America Parkway	77.9
SR 237 East of Great America Parkway	77.0

NOTE: dBA = A-weighted decibels; Noise levels reflect a distance of 50 feet from the roadway center except for SR237 which is 160 feet from roadway center.
SOURCES: Traffic data compiled by Arup in 2024 and noise modeling performed by Environmental Science Associates in 2024.

4.2 Existing Groundborne Vibration Levels

Sources of vibration in the project vicinity include Amtrak, Capital Corridor, and ACE diesel locomotive operations in the Union Pacific Railroad along Lafayette Street as well as VTA light rail along Tasman Drive. FTA has published generalized ground-surface vibration curves for locomotive-powered passenger and freight trains, which are presented in **Table 3**. It should be noted that many Amtrak trains stop at the Great America Station and that all VTA light rail on Tasman stop at the Santa Clara/Great America and Lick Mill stations and, hence, train speeds are generally in the range of 5 to 20 miles per hour when these stops occur.

TABLE 3
GENERALIZED VIBRATION LEVELS FROM LOCOMOTIVE-POWERED PASSENGER OR FREIGHT TRAINS* (VIBRATION DECIBELS AND PEAK PARTICLE VELOCITY)

Train Speed	Distance from Tracks				
	30 Feet	50 Feet	100 Feet	150 Feet	200 Feet
10 mph	74 VdB/0.051 PPV	71 VdB/0.040 PPV	62 VdB/0.019 PPV	60 VdB/0.016 PPV	58 VdB/0.013 PPV
20 mph	80 VdB/0.085 PPV	77 VdB/0.066 PPV	68 VdB/0.031 PPV	66 VdB/0.026 PPV	64 VdB/0.022 PPV
30 mph	84 VdB/0.12 PPV	81 VdB/0.092 PPV	72 VdB/0.043 PPV	70 VdB/0.037 PPV	68 VdB/0.03 PPV
50 mph	88 VdB/0.17 PPV	85 VdB/0.13 PPV	76 VdB/0.060 PPV	74 VdB/0.024 PPV	72 VdB/0.043 PPV

NOTES: mph = miles per hour; PPV = peak particle velocity; VdB = vibration decibels

* These levels reflect generalized diesel locomotive activity and do not reflect potential future reductions from electrification of Caltrain north of Diridon Station and increases from High-Speed Rail operations.

SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

The only other sources of groundborne vibration in the project site vicinity are heavy-duty vehicular travel (e.g., refuse trucks, haul trucks) on local roadways. Trucks traveling at a distance of 50 feet typically generate groundborne vibration velocity levels of around 63 VdB (approximately 0.006 in/sec PPV), and these levels could reach 72 VdB (approximately 0.016 in/sec PPV) where trucks pass over discontinuities in the roadway (FTA, 2018).

4.3 Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, and auditoriums generally are more sensitive to noise than are commercial and industrial land uses. Sensitive receptors in the study area[6] are described below and presented in **Table 4**, along with their approximate distance to the project site boundary.

- Noise-sensitive land uses in the project vicinity include the following:
  Residential neighborhood south of Tasman Drive and east of Lafayette Street—the nearest residence is approximately 300 feet southeast of Parcels 4 and 5.
- Newly constructed residential uses on the north side of Calle Del Mundo adjacent to Parcel 2.
- Kathryn Hughes Elementary School and Hughes Preschool, approximately 800 feet southeast of Parcels 4 and 5 and the Great America Amtrak/Altamont Commuter Express (ACE) train station.
- Residential neighborhood east of Guadalupe River Trail and south of State Route (SR) 237—the nearest residences are approximately 500 feet east of the Parcel 1 and 2 boundaries.
- Mobile home community north of SR-237—the nearest residences are approximately 685 feet north of the Parcel 1 boundary.

[6] The study area for noise impacts is the same as considered in the 2016 EIR and generally encompasses land uses within 2,000 feet of the City Place and Scheme C project footprints.

TABLE 4
EXISTING NOISE-SENSITIVE RECEPTORS WITHIN 1,000 FEET OF THE PROJECT SITE

Type of Sensitive Receptor	Location	Minimum Distance from Project Site Boundaries
South of the Project Site		
Multi- -family residences	Calle Del Mundo	60 feet south of Parcel 2
Single-family residences	Avenida de Los Alumnos	360 feet southeast of Parcel 5
Elementary School and Preschool	4949 Calle de Escuela	800 feet southeast of Parel 5
East of the Project Site		
Oak Crest Estates residences	East of Guadalupe River	400 feet east of Parcel 1
Merryweather Lane residences	East of Guadalupe River	500 feet east of Parcel 1 and 2
Stonegate Apartments	East of Guadalupe River	430 feet east of Parcel 2
North of the Project Site		
Summerset mobile home community	Channel Drive	685 feet north of Parcel 1 and across SR 237

SOURCES: Data compiled by Environmental Science Associates in 2024; Google Earth (imagery date September 11, 2017) for parcel data (address and distance to the site).

4.4 Regulatory Setting

Federal Noise Standards

Standards regarding noise exposure and workers are the primary federal noise standards that directly regulate noise related to the operation of the proposed project. The U.S. Occupational Safety and Health Administration (OSHA) enforces regulations to safeguard the hearing of workers exposed to occupational noise. OSHA has established worker noise exposure limits that vary with the duration of the exposure and requires implementation of a hearing conservation program if employees are exposed to noise levels in excess of 85 dBA.

Federal regulations also establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 Code of Federal Regulations (CFR), Part 205, Subpart B. The federal truck pass-by noise standard is 80 dB at 15 meters from the vehicle pathway centerline. These controls are implemented through regulatory controls on truck manufacturers.

Federal Transit Authority Vibration Standards

FTA has adopted vibration standards that are used to evaluate potential building damage impacts related to construction activities. The vibration damage criteria adopted by FTA are shown in **Table 5**.

TABLE 5
CONSTRUCTION VIBRATION DAMAGE CRITERIA

Building Category	PPV (in/sec)
I. Reinforced concrete, steel, or timber (no plaster)	0.5
II. Engineered concrete and masonry (no plaster)	0.3
III. Non-engineered timber and masonry buildings	0.2
IV. Buildings extremely susceptible to vibration damage	0.12

NOTES: in/sec = inches per second; PPV = peak particle velocity
SOURCE: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

In addition, the FTA has also adopted standards associated with human annoyance for groundborne vibration impacts for the following three land-use categories:

- **Category 1—High Sensitivity:** Buildings where vibration would interfere with operations within the building, including vibration-sensitive research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. Vibration-sensitive equipment includes, but is not limited to, electron microscopes, high-resolution lithographic equipment, and normal optical microscopes.
- **Category 2—Residential:** All residential land uses and any buildings where people sleep, such as hotels and hospitals.
- **Category 3—Institutional:** Land uses such as schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment, but still have the potential for activity interference.

Under conditions where there are an infrequent number of events per day, FTA has established thresholds of 65 VdB for Category 1 buildings, 80 VdB for Category 2 buildings, and 83 VdB for Category 3 buildings.[7] Under conditions where there are an occasional number of events per day, FTA has established thresholds of 65 VdB for Category 1 buildings, 75 VdB for Category 2 buildings, and 78 VdB for Category 3 buildings.[8] No thresholds have been adopted or recommended for commercial and office uses.

California Department of Public Health Noise Standards

The California Department of Public Health has established guidelines for evaluating the compatibility of various land uses as a function of community noise exposure. These guidelines for land use and noise exposure compatibility are shown in **Table 6**. In addition, Section 65302(f) of the California Government Code requires each county and city in the state to prepare and adopt a comprehensive long-range general plan for its physical development, with Section 65302(g) requiring a noise element to be included in the general plan. The noise element must: (1) identify and appraise noise problems in the community; (2) recognize Office of Noise Control guidelines; and (3) analyze and quantify current and projected noise levels.

[7] "Infrequent events" is defined by FTA as being fewer than 30 vibration events of the same kind per day.

[8] "Occasional events" is defined by FTA as between 30 and 70 vibration events of the same source per day.

TABLE 6
COMMUNITY NOISE EXPOSURE (DNL OR CNEL)

Land Use	Normally Acceptable[a]	Conditionally Acceptable[b]	Normally Unacceptable[c]	Clearly Unacceptable[d]
Single-Family Homes, Duplexes, Mobile Homes	50–60	55–70	70–75	above 75
Multifamily Homes	50–65	60–70	70–75	above 75
Schools, Libraries, Churches, Hospitals, Nursing Homes	50–70	60–70	70–80	above 80
Transient Lodging—Motels, Hotels	50–65	60–70	70–80	above 75
Auditoriums, Concert Halls, Amphitheaters	—	50–70	—	above 70
Sports Arenas, Outdoor Spectator Sports	—	50–75	—	above 75
Playgrounds, Neighborhood Parks	50–70	—	67–75	above 75
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50–75	—	70–80	above 80
Office Buildings, Business and Professional, Commercial	50–70	67–77	above 75	—
Industrial, Manufacturing, Utilities, Agriculture	50–75	70–80	above 75	—

NOTES:

CNEL = community noise equivalent level; DNL = day-night average noise level

a. Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction without any special noise insulation requirements.
b. Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
c. Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
d. Clearly Unacceptable: New construction or development should generally not be undertaken.

SOURCE: Governor's Office of Planning and Research, *State of California General Plan Guidelines*, Appendix D, 2017.

The State of California also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state pass-by standard is consistent with the federal limit of 80 dB. The state pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dB at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanction of vehicle operators by state and local law enforcement officials.

California Building Code

The California Building Code requires that walls and floor/ceiling assemblies separating dwelling units from each other, or from public or service areas, have a *Sound Transmission Class* (STC) of 50 dB for all common interior walls and floor/ceiling assemblies between adjacent dwelling units or between dwelling units and adjacent public area for multifamily units and transient lodging.[9] The code specifies a maximum interior performance standard of 45 dBA. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

The state has also established noise insulation standards for new multifamily residential units, hotels, and motels that would be subject to relatively high levels of transportation-related noise. These requirements

[9] The STC is used as a measure of a materials ability to reduce sound. The STC is equal to the number of decibels a sound is reduced as it passes through a material.

are collectively known as the California Noise Insulation Standards (Title 24, California Code of Regulations). The noise insulation standards set forth an interior standard of 45 dB CNEL in any habitable room. They require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dB CNEL. Title 24 standards are typically enforced by local jurisdictions through the building permit application process.

State Vibration Standards

No state vibration standards are applicable to the proposed project. Moreover, according to the California Department of Transportation's (Caltrans) *Transportation and Construction Vibration Guidance Manual* (Caltrans, 2020), there are no official Caltrans standards for vibration. However, this manual provides guidelines for assessing vibration damage potential to various types of buildings, ranging from 0.08 to 0.12 in/sec PPV for extremely fragile historic buildings, ruins, and ancient monuments to 0.50 to 2.0 in/sec PPV for modern industrial/commercial buildings.

Santa Clara County 2011 Airport Land Use Commission Comprehensive Land Use Plan

The project site is located within the Airport Influence Area (AIA), as defined by the San José Mineta International Airport's Comprehensive Land Use Plan (CLUP), adopted by the Santa Clara County Airport Land Use Commission (ALUC) on May 25, 2011 (SCALUC, 2011). The CLUP was revised in 2024 (see next sub-section below).

The AIA includes areas around the Airport that are affected by noise, height, and safety considerations. The CLUP includes noise policies and standards for projects in the vicinity of the Airport, as summarized below.

> **Policy N-1:** The CNEL method of representing noise levels shall be used to determine if a specific land use is consistent with the CLUP.
>
> **Policy N-2:** In addition to the other policies herein, the Noise Compatibility Policies presented in Table 4-1 of the CLUP [**Table 7**] shall be used to determine if a specific land use is consistent with the CLUP, which shows residential uses are generally acceptable in 55–60 CNEL environments, conditionally acceptable in 60–65 CNEL environments, generally unacceptable in 65–70 CNEL environments, and unacceptable in 70+ CNEL environments. Transient lodging including motels and hotels are generally acceptable in 55–65 CNEL noise environments, conditionally acceptable in 65 to 70 CNEL noise environments, unacceptable at 70+ CNEL noise environments. Commercial uses are generally acceptable in 55-65 CNEL noise environments, conditionally acceptable in 65–70 CNEL noise environments, generally unacceptable in 70–75 noise environments, and unacceptable in 75+ CNEL noise environments.
>
> **Policy N-3:** Noise impacts shall be evaluated according to the Aircraft Noise Contours presented on Figure 5 of the CLUP.
>
> **Policy N-4:** No residential or transient lodging construction shall be permitted within the 65 dB CNEL contour boundary unless it can be demonstrated that the resulting interior sound levels will be less than 45 dB CNEL and there are no outdoor patios or outdoor activity areas associated with the residential portion of a mixed use residential project or a multi-unit residential project.

TABLE 7
NOISE COMPATIBILITY POLICIES OF THE SANTA CLARA COUNTY AIRPORT LAND USE COMMISSION COMPREHENSIVE LAND USE PLAN

Land Use Category	CNEL					
	55–60	60–65	65–70	70–75	75–80	80–85
Residential—low-density single-family, duplex, mobile homes	GA	CA	GU	U	U	U
Residential—multifamily, condominiums, townhouses	GA	CA	GU	U	U	U
Transient lodging—motels, hotels	GA	GA	CA	U	U	U
Schools, libraries, indoor religious assemblies, hospitals, nursing homes	GA	GU	U	U	U	U
Auditoriums, concert halls, amphitheaters	GA	GU	GU	U	U	U
Sports arena, outdoor spectator sports, parking	GA	GA	GA	CA	GU	U
Playgrounds, neighborhood parks	GA	GA	GU	U	U	U
Golf courses, riding stables, water recreation, cemeteries	GA	GA	GA	CA	GU	U
Office buildings, business commercial and professional, retail	GA	GA	CA	GU	U	U
Industrial, manufacturing, utilities, agriculture	GA	GA	GA	GU	GU	U

GA Generally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements. Mobile homes may not be acceptable in these areas. Some outdoor activities might be adversely affected.
CA Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Outdoor activities may be adversely affected. Residential: Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.
GU Generally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design. Outdoor activities are likely to be adversely affected.
U Unacceptable	New construction or development shall not be undertaken.

NOTE: CNEL = community noise equivalent level
SOURCE: SCALUC, 2011

Policy N-5: All property owners within the Airport Influence Area who rent or lease their property for residential use shall include in their rental/lease agreement with the tenant, a statement advising that they (the tenants) are living within a high noise area and the exterior noise level is predicted to be greater than 65 dB CNEL in a manner that is consistent with current state law including AB2776 (2002).

Policy N-6: Noise level compatibility standards for other types of land uses shall be applied in the same manner as the above residential noise level criteria. Table 4-1 of the CLUP [Table 7, above], presents acceptable noise levels for other land uses in the vicinity of the Airport (refer to Policy N-2 to land uses proposed by the project) as established in Table 4-1 of the CLUP.

Policy N-7: Single-event noise levels (SENL) from single aircraft overflights are also to be considered when evaluating the compatibility of highly noise-sensitive land uses such as schools, libraries, outdoor theaters, and mobile homes. Single-event noise levels are especially important in the areas regularly overflown by aircraft, but which may not produce significant CNEL contours, such as the down-wind segment of the traffic pattern, and airport entry and departure flight corridors.

Santa Clara County 2024 Airport Land Use Commission Comprehensive Land Use Plan

In March 2024, the ALUC adopted an update to its CLUP. The updated CLUP that contains the same policies as outlined above for the 2011 CLUP. However, the updated CLUP contains revised Noise Contours for airport operations. Based on the 2024 contours contained in Figure 5 of the 2024 CLUP, the City Center parcels and Parcels 1 and 2 are no longer within the 65 CNEL noise contour for airport operations.

City of Santa Clara 2010-2035 General Plan

The Goals and Policies Chapter of the General Plan (City of Santa Clara, amended 2022) contains 11 policies regarding noise and vibration that are salient to the proposed project. Policies that are relevant to the Scheme C are included below. The General Plan also outlines the levels of exterior noise that are considered "compatible;" noise level exposure that requires design and insulation to maintain acceptable interior noise levels; and noise level exposure that is regarded as "incompatible" for residential, educational, recreational, commercial, industrial, and open space land uses (see **Table 8**). Land uses proposed for areas designated as incompatible require that the uses are entirely indoors and interior noise levels can be maintained at 45 dBA, Ldn.

Policy 5.8.7-P5. Require new development to implement appropriate measures to reduce the negative effects, such as noise and vibration, of rail and freight services.

Policy 5.10.6-P1. Review all land use and development proposals for consistency with the General Plan compatibility standards and acceptable noise exposure levels defined on Table 5.10 1.

Policy 5.10.6-P2. Incorporate noise attenuation measures for all projects that have noise exposure levels greater than General Plan "normally acceptable" levels, as defined on Table 5.10-1.

Policy 5.10.6-P3. New development should include noise control techniques to reduce noise to acceptable levels, including site layout (setbacks, separation and shielding), building treatments (mechanical ventilation system, sound-rated windows, solid-core doors, and baffling) and structural measures (earthen berms and soundwalls).

Policy 5.10.6-P4. Encourage the control of noise at the source through site design, building design, landscaping, hours of operation, and other techniques.

Policy 5.10.6-P5. Require noise-generating uses near residential neighborhoods to include solid walls and heavy landscaping along common property lines and to place compressors and mechanical equipment in sound-proof enclosures.

Policy 5.10.6-P6. Discourage noise-sensitive uses, such as residences, hospitals, schools, libraries, and rest homes, from areas with high noise levels, and discourage high noise-generating uses from areas adjacent to sensitive uses.

Policy 5.10.6-P7. Implement measures to reduce interior noise levels and restrict outdoor activities in areas subject to aircraft noise in order to make Office/Research and Development uses compatible with the Norman Y. Mineta San José International Airport land use restrictions.

Policy 5.10.6-P8. Continue to encourage safe and compatible land uses within the Norman Y. Mineta San José International Airport Noise Restriction Area.

Policy 5.10.6-P11. Develop and include noise reduction measures with improvements and extensions of City streets.

TABLE 8
CITY OF SANTA CLARA 2010-2035 GENERAL PLAN NOISE STANDARDS

Land Use	50	55	60	65	70	75	80	85
Residential								
Educational								
Recreational								
Commercial								
Industrial								
Open Space								
	Compatible							
	Require Design and insulation to reduce noise levels							
	Incompatible. Avoid land use except when entirely indoors and an interior noise level of 45 Ldn can be maintained							

SOURCE: City of Santa Clara General Plan, 2010.

City of Santa Clara Municipal Code

Chapter 9.10 of the City Code applies to the regulation of noise and vibration. The purpose of the noise ordinance is to protect the public welfare by limiting unnecessary, excessive, and unreasonable noise or vibration. Section 9.10.040 specifies the exterior noise limits that apply to land use zones within the City. Noise from construction activities is not subject to the City's noise limits, provided that the activities occur between the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and 9:00 a.m. and 6:00 p.m. on Saturdays. Construction is not permitted within 300 feet of residentially zoned properties on holidays or Sundays. **Table 9** shows the exterior noise limits of the City Code.

TABLE 9
EXTERIOR SOUND LIMITS FOR THE CITY OF SANTA CLARA

Receiving Zone Zoning Category	Time Period	Maximum Noise Level (dBA)
Category 1		
Single-family and duplex residential (Rl, R2):	Commencing at 7:00 a.m. and ending at 1:00 p.m. that evening	55
	Commencing at 10:00 p.m. and ending at 7:00 a.m. the following morning	50
Category 2		
Multiple-family residential, public space (R3, 8):	Commencing at 7:00 a.m. and ending at 10:00 p.m. that evening	55
	Commencing at 10:00 p.m. and ending at 7:00 a.m. the following morning	50
Category 3		
Commercial, Office (C, 0):	Commencing at 7:00 a.m. and ending at 10:00 p.m. that evening	65
	Commencing at 10:00 p.m. and ending at 7:00 a.m. the following morning	60

Receiving Zone Zoning Category	Time Period	Maximum Noise Level (dBA)
Category 4		
Light Industrial (ML, MP):	Anytime	70
Heavy Industrial (MH):	Anytime	75
SOURCE: Section 9.10.040 of the City of Santa Clara Municipal Code		

5. Impacts and Mitigation Measures

The analysis in this section summarizes the impacts and findings of the certified 2016 EIR relating to noise and vibration. The analysis also provides a comparison of the Scheme C Project to the Approved Project analyzed in the 2016 EIR as well as a summary of the potential environmental impacts that may result from the Scheme C Project. It describes the methods used to determine the impacts of Scheme C and lists the thresholds used in the 2016 EIR to conclude whether an impact would be significant. All mitigation measures identified in the 2016 EIR that would apply to the Scheme C Project are listed.

5.1 Thresholds of Significance

Based on the thresholds of significance from the 2016 EIR, an impact related to noise and/or groundborne vibration project would be significant if implementing the proposed project would:

- Expose people to or generate noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies;
- Expose people to or generate excessive groundborne vibration or groundborne noise levels;
- Cause a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;
- Cause a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;
- For a project located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the project expose people residing or working in the area to excessive noise levels; or
- For a project located in the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels.

With respect to the last criterion regarding whether the project would be impacted by noise from a private airstrip, the 2016 EIR found that the project site is not located in the vicinity of a private airstrip and would not expose people to excessive aircraft noise from a private airstrip. There would be no impact and the topic was not addressed further. Because this is still the case as of 2024, this topic is, likewise, not discussed in further in this technical Report.

Note that 2016 EIR impact statements NOI-3, Permanent Increase in Ambient Noise Level, and NOI-4, Temporary or Periodic Increases in Ambient Noise Level, were determined to be addressed through the impact analysis under Impact NOI-1.

5.2 Methodology

The following is a description of the methodology used to evaluate the impacts of the Scheme C Project relative to each of the significance thresholds cited above.

Substantial Increase in Noise

The first threshold of significance examines whether project construction and/or operations would generate noise in excess of established noise standards which are different for stationary, mobile, and construction noise sources. The evaluation of Scheme C relative to these thresholds is subdivided in sequence similar to the 2016 EIR. Impact 1a focuses on operational increases in ambient noise level from stationary sources, while Impact 1b focuses on the project's contribution to localized increases in traffic-generated noise along roadways, while Impact 1c focuses on construction-related noise generated by the project.

Stationary-Source Noise

Operational noise from stationary sources such as generators, loading and unloading, TRU operations, and other mechanical equipment; are assessed for a hybrid land use scenario for Scheme C to account for the noisiest operations associated with both a warehouse use and an industrial use. This scenario assumes a combination of manufacturing, which would generate noise from the operation of multiple generators, and warehouse/distribution facilities, which would generate noise from on-site truck traffic and loading/ unloading activities. The analysis of stationary source noise relies on proxy equipment specifications for heating, ventilation, and air conditioning (HVAC) equipment and backup generators, given that project-specific details are not available. The impacts of the Scheme C's noise and vibration levels are determined relative to the thresholds from the 2016 EIR including City's applicable noise level criteria in Section 9.10.040 of the City's municipal code which limits noise levels for fixed noise sources and the noise standards of the General Plan.

For stationary noise sources, the 2016 EIR applied the City Code exterior noise limits of 55 and 50 dBA in residential areas for day and nighttime hours, respectively. The standards apply to the property line of any use other than the property from which the noise emanates. However, according to the City Noise Ordinance, if the measured ambient noise level at any given location differs from those levels set forth in City Code 9.10.040, Schedule A, the allowable noise exposure standard shall be adjusted in five dBA increments in each category as appropriate to encompass or reflect said ambient noise level. As shown in Table 1, the existing average nighttime hourly noise level monitored at the eastern and southern property lines adjacent to receptors was 53 to 54 dBA. Therefore, the applicable nighttime noise standard at the nearest noise-sensitive receptors would be 55 dBA.

Project-Generated Traffic Noise

Potential noise increases from changes in traffic volumes due to Scheme C operations are evaluated using revised passenger vehicle trip distribution for a single project scenario described above. Noise from 24-hour truck operations is estimated for the warehouse/distribution facilities using information provided by the transportation consultant (ARUP) and assumes truck distribution as determined in the *2024 Related Santa Clara Project Traffic Analysis Memo.*

Significant operational traffic noise impacts were identified in the 2016 EIR because the Approved Project noise levels would exceed local land use noise standards for the affected land uses and the

Approved Project would increase existing traffic noise levels by 3.0 dBA or more (3 dBA is the threshold level for most people to notice a change in noise). This threshold is consistent with the guidance on the significance of changes in ambient noise levels from transportation provided by the 1992 findings of the Federal Interagency Committee on Noise (FICON), which assessed the annoyance effects of changes in ambient noise levels caused by aircraft operations (FICON, 1992). The recommendations are based on studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. The term "annoyance" summarizes the general adverse reaction of people to noise that interferes with speech, disturbs sleep, or interferes with the desire for a tranquil environment. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, they apply to all sources of transportation noise described in terms of cumulative noise exposure metrics such as the DNL. The measures of a substantial increase in transportation noise exposure as recommended by FICON are presented in **Table 10**.

TABLE 10
MEASURES OF A SUBSTANTIAL INCREASE IN TRANSPORTATION NOISE EXPOSURE

Ambient Noise Level without Project (DNL)	Significant Impact Assumed to Occur if Project Site Development Increases Ambient Noise Levels by:
<60 dB	+ 5.0 dB or more
60–65 dB	+ 3.0 dB or more
>65 dB	+ 1.5 dB or more[a]

NOTES: dB = decibels; DNL = day-night average noise level

a. According to the Federal Interagency Committee on Noise report, the 1.5 A-weighted decibel (dBA) increase in environments that exceed 65 dBA is not necessarily a significant increase but, rather, an increase warranting further investigation.

SOURCE: Federal Interagency Committee on Noise, *Federal Agency Review of Selected Airport Noise Analysis Issues*, August 1992.

This analysis of traffic-related noise uses the traffic volumes developed for the *2024 Related Santa Clara Project Traffic Analysis Memo*. The methodology for developing background and Scheme C traffic volumes is described in the traffic analysis memo.[10]

Traffic noise levels were modeled using the algorithms of the Federal Highway Administration's Traffic Noise Model for the background and background plus project and cumulative plus project scenarios. The resulting noise levels were then compared to the noise levels predicted for the Approved Project in the 2016 EIR.

Additionally, because the Scheme C Project could include a warehouse facility that could operate 24-hours per day, a nighttime roadway noise analysis was conducted that compares a background nighttime traffic noise to a background plus project scenario. For consistency with the 2016 EIR analysis, this nighttime analysis applies the 3 dBA increase that was used in the 2016 EIR as the threshold of significance. This is a reasonable threshold because Caltrans considers a 3 dBA to be a barely perceptible increase in transportation noise (Caltrans, 2013).

[10] See the *2024 Related Santa Clara Traffic Analysis Memo* prepared by Arup for the Project Applicant and peer reviewed by Hexagon for the City of Santa Clara. See *Related Santa Clara Revised Land Use CEQA Checklist/Addendum* Appendix B.

Construction Noise and Vibration

The approach to assessment of impacts from changes in noise and vibration from construction assumes that the construction footprints between the Approved Project and Scheme C would not change substantially and that because the increase in density in Parcel 4 would likely be accommodated primarily by building height, construction noise and vibration impacts would be similar to those identified in the 2016 EIR. The changes in construction-related noise would result primarily from an increased duration of the overall construction timeline to accommodate the added density in the southwestern area of the site. The same equipment would be used and the same distance to receptors analyzed in the 2016 EIR would occur. While there could be a greater duration of construction activity, this would not affect the magnitude of the noise levels experienced at nearby receptors and would not result in a further temporary or periodic *increase* in ambient noise levels. Therefore, quantitative analysis of construction-related noise and vibration is not warranted.

Exposure of People to Excessive Noise Levels

As discussed above, a portion of the project site is within the 65 CNEL noise contour of San José Mineta International Airport. CEQA requires the analysis of potential adverse effects of a project on the environment; however, the California Supreme Court ruled in *BIA v. BAAQMD* that the potential effects of the environment on the project are legally not required to be analyzed or mitigated under CEQA, except where the project's impacts would exacerbate the existing conditions. However, the ruling provided several exceptions to this general rule including if the project's occupants are exposed to potential noise and safety impacts because of the project site's proximity to an airport (Public Resources Code Section 21096). In addition, Appendix G of the CEQA Guidelines continues to identify a project's exposure to airport noise as an impact under CEQA. Therefore, this analysis uses the future noise exposure estimates provided in the CLUP for the Airport to assess the potential for proposed land uses to be adversely affected by aircraft noise.

Non-CEQA Planning Considerations

Noise and vibration impacts on proposed future project development from the existing environment, such as existing roadway noise, existing noise-generating land uses, existing railway noise, and existing railway vibration; have been determined to not be subject to CEQA. However, the City has policies and regulations that address existing conditions affecting a proposed project, and General Plan Policy 5.10.6-P1 provides standards for noise exposure for new land uses. Consequently, this report contains a discussion of the land use compatibility of the Scheme C Project, similar to what was done in the 2016 EIR.

Cumulative Impacts

As stated above, for construction noise, the same equipment would be used and the same distance to receptors analyzed in the 2016 EIR would occur. While there could be a greater duration of construction activity, this would not affect the magnitude of the noise levels experienced at nearby receptors and would not result in a further temporary or periodic *increase* in ambient noise levels which is the CEQA threshold. Therefore, the cumulative impacts from construction would be the same as identified in the 2016 EIR. While there is existing cumulative construction occurring along Calle del Mundo that was not envisioned in the 2016 EIR, this construction will be complete by the time construction under Scheme C commences. Therefore, there would be no new cumulative construction noise impacts.

Cumulative noise impacts from operations would occur if new sources were to be developed within 800 feet of project elements.[11] While there will be new residential land uses becoming occupied along Calle del Mundo that were not envisioned in the 2016 EIR, residential uses are generally not considered to be noise generating land uses.[12]

The significance of cumulative impacts related to traffic noise levels is determined using a two-step process. First, similar to the project-level assessment of traffic impacts, the increase in noise levels between cumulative (2035) conditions[13] with the Scheme C Project and background conditions is compared to an incremental 3 dBA threshold. If the roadside noise levels were to exceed this incremental threshold, a significant cumulative noise impact would be identified.

The second step of the analysis of cumulative roadside noise impacts (if a significant cumulative noise impact is predicted based on the above methodology) is to evaluate whether the contribution of the project to roadside noise levels would be cumulatively considerable. This second step (if necessary) involves assessing whether the project's contribution to roadside noise levels (i.e., the difference between cumulative conditions and cumulative plus project conditions) would exceed a 1 dBA incremental contribution as was applied in the 2016 EIR. Such an increase is a reasonable criterion to use for assessing a cumulatively considerable increase because decibels are logarithmic metrics and a 1 dBA contribution to a significant 3 dBA or greater increase represents less than 30 percent contribution and is a contribution well below the threshold of perception.

5.3 Project Impacts

Impact 1: Would the revised project expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

Impact NOI-1a: Construction Noise Impacts on Off-Site Land Uses

Approved Project

Under the Approved Project, Parcel 1 was to be developed with 1.2 million square feet (sf) of office space while Parcel 2 was to be developed with 2.16 million sf of office space. The 2016 EIR found that noise levels resulting from construction of the project would temporarily exceed the City Code noise limits at sensitive land uses during non-exempt hours and that construction noise impacts on off-site land uses would be significant. Mitigation Measure NOI-1.1 was identified to require the development of a construction noise control plan that would ensure that construction activities would comply with the City Code and the resulting impact would be less than significant with mitigation.

[11] This 800-foot distance is applied in the 2016 EIR. Assuming that surrounding uses are in compliance with the City of Santa Clara Noise Ordinance, noise levels at a heavy industrial property line could be as high as 75 dBA (see Table 9). At a distance of 800 feet, this noise level would be attenuated to 54 dBA which is the existing nighttime hourly average noise level monitored at the property line of the project site (see Table 1).

[12] The background vibration velocity level in residential areas is usually 50 VdB or lower (FTA, 2018).

[13] Cumulative No Project volumes are derived from the 2035 City of Santa Clara (CSC) model based on a model run with Related Santa Clara land uses removed from the model.

Scheme C

It is assumed that the construction footprints between the Approved Project and Scheme C would not change substantially and that, because the increase in density in Parcel 4 would likely be accommodated by building height, construction noise and vibration impacts would be similar to those indicated in the 2016 EIR with the changes primarily resulting in an increased duration of the overall construction timeline to accommodate the increased density in the southwestern area of the project site. The same equipment would be used and the same distance to receptors analyzed in the 2016 EIR would occur. While there could be a greater duration of construction activity, this would not affect the magnitude of the noise levels experienced at nearby receptors and would not result in a further temporary or periodic *increase* in ambient noise levels. Therefore, construction-related noise impacts associated with the Scheme C would also be less than significant with mitigation and additional quantitative analysis of construction-related noise and vibration is not warranted.

Impact NOI-1b: Construction Noise Impacts on On-Site Land Uses

The same reasoning applied above for the assessment of construction noise impacts to off-site land uses also applied to on-site receptors proposed by the project.

Impact NOI-1c: Operational Noise Impacts on Off-Site Land Uses

Stationary Noise Sources

Approved Project

Under the Approved Project, Parcel 1 was to be developed with 1.2 million square feet (sf) of office space while Parcel 2 was to be developed with 2.16 million sf of office space. The 2016 EIR found that, because the Approved Project would locate commercial uses adjacent to residential uses, stationary sources associated with commercial uses could result in noise levels that would exceed the City Code exterior noise limits of 55 and 50 dBA in future project residential areas for day and nighttime hours, respectively. The noise impact associated with the exposure of future project residences to stationary sources of noise was, therefore, identified as significant. Potential stationary source noise impacts to off-site receptors was not addressed in the 2016 EIR. Mitigation Measure NOI-1.3 was identified to ensure that potential noise impacts to on-site uses would be addressed through design and would reduce this impact to a less-than-significant level.

NOI-1.3: *Prepare and Implement a Noise Control Plan to Reduce Interior Noise at Sensitive Land Uses.* The Project Developer shall conduct a design-level acoustic study that identifies exterior noise levels for residential and commercial uses on the Project site. This study shall take into account existing airport noise, Project, and reasonably foreseeable future noise sources (such as proposed increases in passenger rail service along the Lafayette Street corridor). Where this study finds that the exterior noise level would exceed the residential compatibility standard of 55 dBA L_{dn} or the commercial incompatibility standard of 65 dBA Ldn, the Project Developer shall prepare a design-level operational noise control plan to provide acceptable interior noise levels. This plan shall identify all Project features and treatments that will be implemented to ensure that the Project is in compliance with the interior noise standards listed in the City's General Plan and City Code as well as the standards specified for new construction within the CLUP for SJC.

The study and plan shall be developed by an acoustical design professional. Design features and treatments will be identified to ensure that interior noise levels at new proposed uses are in compliance with the noise standards. The report shall be submitted to the City for review and approval prior to the issuance of building permits for the Project. Depending on the noise exposure for a particular site, such treatments may include, but are not limited to, those listed below, as recommended by the acoustical design professional.

- Construction of enclosures around noise-generating mechanical equipment at commercial uses.
- Use of setbacks from noise sources to maximum attenuation of noise over distance.
- Installation of noise-reducing treatments in new buildings, including:
  - High-performance, sound-rated double-glazed windows,
  - Sound-rated doors,
  - Sound-rated exterior wall construction,
  - Special acoustical details for vents,
  - Acoustical caulking at all exterior façade penetrations,
  - Sound-rated roof and ceiling constructions, and
  - Adequate mechanical ventilation so that windows and doors may be kept closed at the discretion of the building occupants to control environmental noise intrusion.

Scheme C Project

Scheme C would replace the office land uses proposed under the Approved Project with approximately 1.6 million sf of warehouse or manufacturing uses. These land uses would generate additional stationary source noise considerations. First, both land uses would require HVAC systems. The 17-story towers proposed under the Approved Project would require large, packaged HVAC equipment on the rooftops. Similarly, industrial uses would also likely require large, packaged HVAC units and the rooftops would be at a lower level. However, building heights on Parcels 1 and 2 would be reduced from the 17-story towers assumed in the 2016 EIR. Buildings on Parcels 1 and 2 would be roughly one to two high-bay levels, or 60 feet in height. While up to half of buildings may reach a height of up to 90 feet to accommodate upper-level commercial or light industrial uses, this analysis conservatively assumes that all buildings would be 60 feet in height which could allow direct line of sight with some elevated off-site receptors in residential towers being constructed in Calle del Mundo, unlike a 90-foot building height assumption.

Second, the industrial/warehouse uses under Scheme C would potentially require back-up diesel generators. Like the Approved Project, taller buildings across the Project site would also have required back-up diesel generators for emergency egress.[14]

[14] As noted in Section 4.1 of the CEQA Addendum, the proposed Master Community Plan Scheme C Supplement would revise the formulation of the height limits to permit towers on Parcel 4 of up to approximately 10-12 stories, with a maximum building height consistent with ALUC regulations and Federal Aviation hazard limits pursuant to FAA Federal Aviation Regulations, FAR Part 77 criteria. Although this revision would remove the 219 feet above msl height limit on Parcel 4, the revised height limits would remain consistent with applicable General Plan Policy 5.10.5-P30 and General Plan Policy 5.10.5-P33 that require compatibility with the Airport Land Use Compatibility Plan and Federal Aviation Administration Federal Aviation Regulations, FAR Par 77 criteria hazard height limits at San José Mineta International Airport, respectively.

Potential warehouse uses under Scheme C could result in truck maneuvering and operation of transportation refrigeration units (TRUs) within the project site that would be the sources of on-site stationary noise that were not a consideration in the 2016 EIR. Loading and unloading activities would also likely necessitate the use of forklifts. Both trucks and forklifts would need to operate back-up alarms to ensure worker safety, but forklifts would generally operate within the interior of the warehouse. Each of these sources is considered below and an estimate of the aggregate noise levels resulting from all sources is then considered.

Overall, while the square footage of development on the project site would remain generally the same as under the Approved Project, the industrial/warehouse uses on Parcels 1 and 2 would include different stationary noise sources and could operate 24 hours per day and hence increase operational noise levels during the more sensitive nighttime hours.

Noise from HVAC Systems

As discussed above, the 2016 EIR considered stationary source impacts from HVAC systems on adjacent on-site receptors and identified the impact as potentially significant because of the potential to exceed the City residential compatibility standard of 55 dBA Ldn or the commercial incompatibility standard of 65 dBA Ldn. A recent analysis of HVAC noise from industrial uses estimated that with five pieces of equipment to be operating simultaneously at any time during a 24-hour period, which would represent worst-case conditions, the total potential noise generated by the mechanical equipment would be up to 69 dBA Leq and 75 dBA DNL at 20 feet (Illingworth and Rodkin, 2023).

The eastern extent of the building rooftops on Parcels 1 and 2 would be approximately 750 feet from residences to the east on Shorewood Lane and at Oakcrest Estates mobile home park. The southern extent of the building rooftops would be approximately 500 feet from residences to the south on Calle del Mundo. It should be noted that the nearest proposed on-site receptor would be future project residential uses on Block WL which would be approximately 900 feet to the west and further away than the off-site receptors.

Table 11 shows noise levels associated with HVAC at a reference distance of 20 feet. The table also presents the noise level from HVAC at the distance of the nearest noise sensitive receptors. The noise levels predicted in Table 11 are noise levels attenuated with distance and do not take into account the shielding provided by enclosures or parapets. As can be seen from Table 11, operational noise from HVAC at the nearest receptors would be well below the applicable nighttime noise standard of 55 dBA.

TABLE 11
HVAC OPERATIONAL NOISE

Scenario	Equivalent Continuous Noise Level (Leq), in dBA		
	20 Feet (Reference distance)	**500 Feet** (Calle del Mundo residences at 77 feet tall)	**750 feet** (Shorewood Lane residences at 5 feet tall)
5 Industrial HVAC packages	69	48	45
City of Santa Clara Nighttime Noise Standard (adjusted)	--	55	55

NOTES: dBA = A-weighted decibels
SOURCE: Illingworth and Rodkin, 2023 and ESA. 2024 (Appendix A)

Generators

One emergency generator could be located in each of the 10 proposed buildings for Scheme C. The generators are assumed to be rated for up to 500 kilowatts. Except for emergency conditions, all of these generators would be tested for maintenance approximately once a week for less than one hour, up to a maximum of 50 hours per year as restricted by the applicable air quality permit. Maintenance testing is typically conducted either by a professional technician during normal work (e.g., daytime) hours or on a programmed basis.

A 500 kilowatt generator has a sound pressure rating of 75 dBA at 3 feet (Cummins, 2018). It is unlikely that all 10 generators would be tested simultaneously. Using a conservative approach, this analysis assumed that six generators could be tested at the eastern edge of the six buildings that would form along the eastern side of Parcels 1 and 2 (see **Figure 4**). **Table 12** shows noise levels associated with six generators at a reference distance of 23 feet as well as the noise level from generators at the distance of the nearest noise sensitive receptors. The noise levels predicted in Table 12 are noise levels attenuated with distance and do not take into account the shielding provided by intervening structures. As can be seen from Table 12, operational noise from generator testing at the nearest receptors would be well below the applicable daytime noise standard of 55 dBA.

TABLE 12
GENERATOR TESTING NOISE

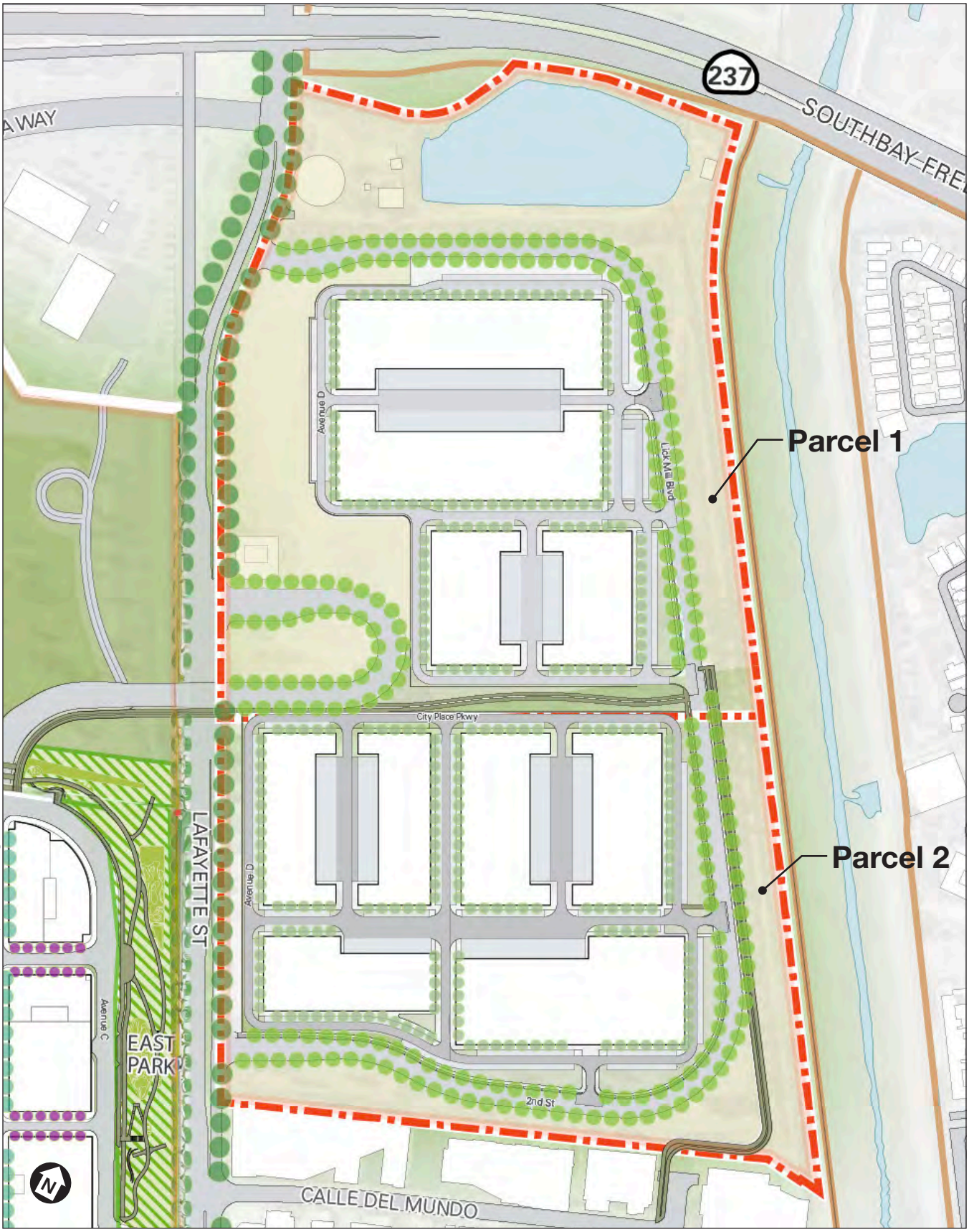
Scenario	Equivalent Continuous Noise Level (Leq), in dBA		
	3 Feet (Reference distance)	**500 Feet** (Calle del Mundo residences at 77 feet tall)	**750 feet** (Shorewood Lane residences at 5 feet tall)
6 Generators (500 KvA)	83	39	35
City of Santa Clara Daytime Noise Standard	--	55	55

NOTES: dBA = A-weighted decibels
SOURCE: Cummins, 2018 and ESA. 2024 (Appendix A)

Truck movements

Preliminary drawings of the proposed buildings on Parcels 1 and 2 indicate that there would be four building clusters to the north and two additional buildings on the southern end. The four building clusters are designed to have loading docks within the interior of the building clusters. Ingress and egress openings would be located at the northern and southern ends of the three southern clusters, and in the western and eastern ends if the northern cluster (see Figure 4). In this design scheme, the proposed buildings would serve as a barrier to noise within the loading dock areas where trucks would back into the docks. This design scheme would also facilitate a single direction truck route within the parcels which would largely minimize the need for back-up alarms except when backing into the loading docks.

The southernmost buildings are designed with loading docks exposed on the northern side of the building. In this configuration, the buildings would serve as a noise barrier for the residential uses on Calle del Mundo to the south.



2019/D201901172.02 - Santa Clara Related Revised Land Use/05 Graphics-GIS-Modeling-USE AZURE/Illustrator

SOURCE: Related Santa Clara 2023

Related Santa Clara Scheme C

Figure 4
Scheme C Parcels 1 and 2 Building Configurations

ESA

Operation of the proposed loading docks would increase ambient noise levels in the immediate vicinity primarily through the on-site movement of trucks and the occasional operation of TRUs and operation of forklifts. The eastern extent of the loading dock areas would be approximately 750 feet from residences to the east on Shorewood Lane and at Oakcrest Estates mobile home park. The southern extent of the loading dock areas would be approximately 500 feet from residences to the south on Calle del Mundo.

As discussed above, the proposed buildings would serve as a barrier to noise within the loading dock areas where trucks would back into the docks. The Barrier Performance Module developed by the department of Housing and Urban Development was used to estimate the degree of acoustical shielding provided by the proposed 60-foot structures[15], as they would apply to elevated receptors of the 7-story residential tower on Calle del Mundo. Module output indicates a net noise reduction of 16 dBA, conservatively assuming an off-site receptor at a seventh story height (77 feet).

Table 13 shows noise levels associated with semi-trailer truck maneuvering including operation of TRUs (ESA, 2008). This table indicates that the highest noise levels generated during a semi-trailer truck operation would be 66 dBA at 50 feet, as it maneuvers into a parking space. Once a truck is parked, the TRU could continue to operate, generating noise level of 62 dBA at a distance of 50 feet. The table also presents the noise level from truck maneuvering at the distance of the nearest noise sensitive receptors. The noise levels predicted in Table 13 apply a 16 dBA reduction for attenuation afforded by the proposed 60-foot structures. As can be seen from Table 13, operational noise from a single truck maneuvering at the nearest receptors would be below the applicable nighttime noise standard of 50 dBA.

TABLE 13
SEMI-TRAILER TRUCK OPERATIONS AND DELIVERY

Scenario	Equivalent Continuous Noise Level (Leq), in dBA		
	50 Feet (Reference distance)	**500 Feet** (Calle del Mundo residences)	**750 feet** (Shorewood Lane residences)
Truck Maneuvering into Loading Area with Operating TRU	65.9	30	26
TRU On with Engine at Idle	65.5	30	28
TRU On with Engine Off	61.7	26	22
Five trucks Maneuvering into Loading Area with Operating TRU	N/A	37	33
City of Santa Clara Nighttime Noise Standard	--	55	55

NOTES: dBA = A-weighted decibels

SOURCE: Environmental Science Associates, *Fresh and Easy Distribution Truck Noise Study*, December 3, 2008

However, it is reasonable to assume that for a large-scale distribution center, several trucks may occasionally operate simultaneously. The nighttime hour with the largest truck trip generation (6:00 a.m. to 7:00 a.m.) is estimated to result in 42 hourly truck trips (Arup, 2024). Considering the proposed building plan and the length of each loading dock, approximately one fifth of these trips would be distributed to the two southern-most buildings on Parcel 2 (see Figure 4). Hence, a total of approximately

[15] Buildings would be moderate height (roughly one to two high-bay levels, or 60 feet). Up to 50 percent of buildings may reach a height of up to 90 feet to accommodate upper-level commercial or light industrial uses. This analysis conservatively assumes all buildings would be 60-feet-tall.

8 truck trips (inward and outward) could be expected every hour. Conservatively assuming simultaneous operation of five trucks maneuvering in the loading dock area with operating TRUs, the resulting noise level at 500 feet, which is the closest receptor, would be 37 dBA which would still be below the applicable nighttime noise standard of 55 dBA.

Occasional impact noises from loading and unloading of trailers and closure of trailer doors would also occur. These noises would be of relatively short duration and would occur within the shielded truck areas and would not be expected to further contribute to the noise levels predicted in Table 13.

Back up alarms

Both trucks and forklifts would need to operate back-up alarms to ensure worker safety within the loading dock areas. Backup alarms are mandated by the Occupational Safety and Health Administration (OSHA) on all types of industrial vehicles. The Society of Automotive Engineers (SAE) and OSHA mandate the type of signal and sound level. The standard has become the audible horn or beep at a sound level of 87 to 112 dB at the source (OEM, 2007). The average noise level within this range would be 99.5 dBA. Recent developments in technology have minimized the sound level output such as programming the sound level at a designated increase over ambient levels. Given the wide range of reference sound levels and recent improvements over the years, ESA selected the average noise level of 99.5 dBA for analysis. For comparison, ESA also analyzes a higher noise level of 105 dBA for a more conservative analysis.

The nearest noise-sensitive receptors to the loading dock area are residential uses on Calle del Mundo, located approximately 20 feet from the property line of the proposed industrial buildings and an additional 500 feet from the nearest loading dock areas. It is noted, as shown in Table 1, that the existing average nighttime hourly noise level monitored at the eastern and southern property lines adjacent to receptors was 53 to 54 dBA. According to the City Noise Ordinance, if the measured ambient noise level at any given location differs from those levels set forth in City Code 9.10.040, Schedule A, the allowable noise exposure standard shall be adjusted in five dBA increments in each category as appropriate to encompass or reflect said ambient noise level. Therefore, the applicable nighttime noise standard at the nearest noise-sensitive receptors would be 55 dBA.

In addition, as discussed above, the proposed buildings would serve as a barrier to noise within the loading dock areas where trucks would back into the docks. The southernmost buildings are designed with loading docks exposed on the northern side of the buildings. In this configuration, the buildings would serve as a noise barrier for the residential uses on Calle del Mundo to the south. The Barrier Performance Module developed by the department of Housing and Urban Development was used to estimate the degree of acoustical shielding provided by the proposed 60-foot structures. Module output indicates a net noise reduction of 16 dBA, conservatively assuming an off-site receptor at a seventh story height (77 feet).

Application of stationary noise source propagation equations for the backup alarm noise results in a predicted noise level of 42 dBA at 520 feet from the source assuming a source reference noise level of the average of published noise generation (99.5 dBA) and 16 dBA of attenuation from the building structure. If the higher noise generation reference level (105 dBA) is assumed, the backup alarm noise.

However, it is reasonable to assume that, at times, several back-up alarms could be in operation simultaneously. As discussed above, the nighttime hour with the largest truck trip generation (6:00 a.m. to 7:00 a.m.) would result in 42 hourly truck trips (ARUP, 2024). While most of these trucks would likely be leaving the facility at this hour, it may conservatively be assumed that half of the trucks (21 trucks) would be arriving, during which backup alarms would be employed as each truck backs into loading a dock. Considering the proposed building plan and the length of each loading dock, approximately one fifth of these trips, or 4.2 trips per hour, would be distributed to the southern-most buildings on Parcel 2 (see Figure 4). This analysis conservatively assumes 5 trucks could backup simultaneously at the southern-most buildings during the busiest nighttime hour. Under this assumption, the resultant noise level would be 54 dBA at the nearest sensitive receptor, which would be just below the applicable adjusted nighttime noise standard of 55 dBA.

Using this same set of assumptions for the remainder of the buildings on Parcel 2, that approximately 5 trucks may backup simultaneously, the additional resultant noise level would be approximately 50 dBA at the nearest sensitive receptor. The combined noise of ten simultaneous backup alarms on Parcel 2 would result in an aggregate noise level of 55 dBA at the nearest sensitive receptors which would meet but not exceed the adjusted nighttime noise standard.

Noise levels at the nearest receptors to the east are predicted to be 46 dBA and also below the applicable adjusted nighttime noise standard of 55 dBA. Consequently, this program-level analysis indicates that operations under Scheme C would be able to be conducted consistent with the restrictions of the City of Santa Clara noise ordinance and not result in a new significant operational noise impact.

As described in the 2016 EIR, subsequent site development would require application for and approval of one or more Development Area Plans. Development Area Plans would include site-specific design details including building heights and configurations, number and location of truck loading dock doors, and trucking operation details. A municipal code compliance policy is proposed as part of Scheme C that would require conformity with the City noise standards and ensure implementation of measures to reduce back up alarm noise. Each subsequent development proposal will be required to confirm its capability of compliance with the City of Santa Clara noise ordinance as well as CEQA requirements in the context of Development Area Plan review and approval.

Project-Generated Traffic Noise

Approved Project

Under the Approved Project, Parcel 1 was to be developed with 1.2 million square feet (sf) of office space while Parcel 2 was to be developed with 2.16 million sf of office space. The 2016 EIR found that while roadway noise increased for seven of the eight roadway segments analyzed, the noise level increase was significant at only one roadway segment. Specifically, because roadway noise along the segment of Lafayette Street between Tasman Drive and Hogan Drive would increase by 3.0 dBA to 74.0 dBA, the impact along this segment would be significant (see **Table 14**, Table 3.6-14 of the 2016 EIR). Implementation of Mitigation Measure NOI-1.2 was identified to reduce this impact on offsite receptors along the east side of Lafayette Street between Tasman Drive and Hogan Drive to a less than significant level. While a soundwall at this location was preliminarily determined to be feasible by the City, because of future obstacles related to design of the wall could occur to make implementation infeasible, the impact was disclosed as potentially significant and unavoidable**.**

TABLE 14
EXISTING AND EXISTING PLUS-APPROVED PROJECT NOISE LEVELS AT ACTUAL DISTANCE TO OFF-SITE RECEPTORS ALONG POTENTIALLY SIGNIFICANT SEGMENTS FOR THE APPROVED PROJECT

Roadway	Segment	Approx. Distance to Nearest Receptor (feet)	Existing Ldn at Receptor Distance	Existing plus-Approved Project Ldn at Receptor Distance	Difference
Tasman Drive	Centennial Boulevard to Calle Del Sol	105	70.0	72.8	2.8
Great America	SR-237 to Yerba Buena Way/Great	200	73.5	74.6	1.1
Parkway	America Way				
Great America	Yerba Buena Way/Great America Way	80	73.4	75.6	2.2
Parkway	Old Mountain View Alviso Road				
Lafayette Street	Great America Way to Future Driveway	340	72.3	72.6	0.3
Lafayette Street	Calle Del Mundo to Tasman Drive	50	66.0	68.5	2.6
Lafayette Street	Tasman Drive to Hogan Drive	55	71.0	74.0	3.0
Lafayette Street	Hogan Drive to Hope Drive	55	71.3	74.0	2.8
Lafayette Street	Agnew Road to Palm Drive	190	67.0	69.1	2.2

SOURCE: Table 3.6-14 of the City of Santa Clara certified an Environmental Impact Report for the City Place Santa Clara Project. 2016

Scheme C Project

Scheme C would replace the office land uses proposed under the Approved Project with approximately 1.6 million sf of warehouse or manufacturing uses. Overall, the square footage of development would remain the same as the Approved Project. However, the industrial/warehouse uses on Parcels 1 and 2 would generate a higher percentage of heavy trucks than what was considered in the 2016 EIR. Additionally, the industrial/warehouse uses on Parcels 1 and 2 could operate 24 hours per day and hence increase noise levels during the more sensitive nighttime hours. Therefore, this updated analysis for Scheme C not only considers the increase over background conditions relative to the significance criteria applied in the 2016 EIR but also compares the resultant traffic noise levels to those predicted for the Approved Project in the 2016 EIR, as well as predicts the noise level increases during the 6:00 a.m. to 7:00 a.m. hour which is the nighttime hour during which the most truck trips would be generated.

First the noise generated by background vehicle trips are compared to the noise generated by background plus project vehicle trips. All truck trips of the project increment were conservatively assumed to be heavy trucks. **Table 15** presents the results of this analysis. As indicated in the table, no roadways would experience an increase of 3 dBA or more and the impact would not be significant.

In addition to comparing the dBA increase, **Table 16** presents the background plus Scheme C noise levels along roadway segments and compares them to the existing plus Approved Project noise levels along the same segments, as presented in the 2016 EIR. As can be seen in Table 16, modeled roadside noise levels are lower for background plus Scheme C than what was predicted for the existing plus Approved Project. Consequently, implementation of Scheme C would not result in roadside noise levels greater than those that were predicted in the 2016 EIR and would not result in new or more severe traffic noise impacts.

TABLE 15
TRAFFIC NOISE INCREASES ALONG ROADS IN THE PROJECT VICINITY

Roadway Segment	Background	Applicable Increase Threshold (dB)	Background plus Scheme C Project	dBA Difference	Significant Increase?
Weekday Peak-Hour Noise Levels					
Lafayette Street North of Great America Way	65.9	3	66.4	0.5	No
Lafayette Street between Great America Way and Future Driveway to Parcel 1	67.5	3	69.0	1.5	No
Lafayette Street South of Future Driveway to Parcel 1	67.5	3	67.8	0.3	No
Tasman Drive west of Great America Parkway	67.6	3	69.3	1.7	No
Tasman Drive between Great America Parkway and Lick Mill Boulevard	68.7	3	70.9	2.2	No
Tasman Drive east of Lick Mill Boulevard	69.1	3	70.5	1.4	No
Lick Mill Boulevard south of Tasman Drive	64.4	3	65.9	1.5	No
Great America Parkway North of Great America Way	71.3	3	73.6	2.3	No
Great America Parkway between Great America Way and Mountain View-Alviso Road	70.8	3	73.0	2.2	No
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	69.8	3	71.6	1.8	No
Great America Parkway south of Tasman Drive	71.3	3	73.2	1.9	No
SR 237 West of Great America Parkway	77.9	3	78.4	0.5	No
SR 237 East of Great America Parkway	77.0	3	77.6	0.6	No

NOTES: dB = decibels; dBA = A-weighted decibels; NA = not applicable

a. There are no existing noise-sensitive land uses along these roadway segments; thus, the impact would be less than significant.

SOURCES: Traffic data compiled by ARUP in 2024, and modeling performed by Environmental Science Associates in 2024.

TABLE 16
EXISTING AND EXISTING PLUS-PROJECT NOISE LEVELS AT ACTUAL DISTANCE TO OFF-SITE RECEPTORS ALONG POTENTIALLY SIGNIFICANT SEGMENTS FOR THE APPROVED PROJECT

Roadway	Segment	Approx. Distance to Nearest Receptor (feet)	Existing plus-Approved Project L_{dn} from 2016 EIR	Background plus-Scheme C L_{dn}	Difference
Tasman	Centennial Boulevard to Calle Del Sol	105	72.8	67.7	-5.1
Great	SR-237 to Yerba Buena Way	200	74.6	67.6	-7.0
Great	Yerba Buena Way/Great America Way to Old Mountain View Alviso Road	80	75.6	71.0	-4.6
Lafayette	Great America Way to Future	340	72.6	64.7	-7.9
Lafayette	Calle Del Mundo to Tasman Drive	50	68.5	67.8	-0.7
Lafayette	Tasman Drive to Hogan Drive	55	74.0	67.7	-6.3
Lafayette	Hogan Drive to Hope Drive	55	74.0	67.7	-6.3
Lafayette	Agnew Road to Palm Drive	190	69.1	NA	NA

Note: NA = data not available for this segment for Scheme C scenario.

SOURCE: ARUP, 2024 and ESA 2024

Because industrial/warehouse uses on Parcels 1 and 2 could operate 24 hours per day, an additional analysis was conducted to predict the increase in roadway noise that would occur during the peak nighttime hour (6:00 a.m. to 7:00 a.m.). For this analysis the noise generated by background vehicle trips are compared to the noise generated by background plus Scheme C vehicle trips. All truck trips of the Scheme C increment at this hour were conservatively assumed to be heavy trucks. **Table 17** presents the results of this analysis. As indicated in the table, only one roadway (two segments of Great America Parkway) would experience an increase of 3 dBA or more. However, because there are no noise-sensitive receptors located along these two segments, the impact would not be significant.

TABLE 17
NIGHTTIME HOUR TRAFFIC NOISE INCREASES ALONG ROADS IN THE PROJECT VICINITY

Roadway Segment	Background	Applicable Increase Threshold (dB)	Background plus Full Buildout of Project	dBA Difference	Significant Increase?
Weekday Peak-Hour Noise Levels					
Lafayette Street North of Great America Way	64.7	3	65.0	0.3	No
Lafayette Street between Great America Way and Future Driveway to Parcel 1	65.4	3	67.9	2.5	No
Lafayette Street South of Future Driveway to Parcel 1	65.4	3	67.3	1.9	No
Tasman Drive west of Great America Parkway	65.1	3	67.2	2.1	No
Tasman Drive between Great America Parkway and Lick Mill Boulevard	66.9	3	68.9	2.0	No
Tasman Drive east of Lick Mill Boulevard	67.2	3	68.8	1.6	No
Lick Mill Boulevard south of Tasman Drive	62.3	3	64.1	1.8	No
Great America Parkway North of Great America Way	69.3	3	72.4	3.1	NA[a]
Great America Parkway between Great America Way and Mountain View-Alviso Road	69.5	5	72.4	2.9	No
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	68.6	3	71.6	3.0	NA[a]
Great America Parkway south of Tasman Drive	69.7	3	72.4	2.7	No
SR 237 West of Great America Parkway	76.7	3	77.2	0.5	No
SR 237 East of Great America Parkway	75.4	3	76.0	0.6	No

NOTES: dB = decibels; dBA = A-weighted decibels; NA = not applicable

a. There are no existing noise-sensitive land uses along these roadway segments; thus, the impact would be less than significant.

SOURCES: Traffic data compiled by ARUP in 2024, and modeling performed by Environmental Science Associates in 2024.

Impact NOI-2/C-NOI-2: Would the Scheme C Project expose people to or generate excessive groundborne vibration or groundborne noise levels during construction or operation? / Would the Scheme C Project, when considered with other cumulative development, expose people to or generate excessive groundborne vibration or groundborne noise levels during construction or operation?

Approved Project

Under the Approved Project, Parcel 1 was to be developed with 1.2 million square feet (sf) of office space while parcel 2 was to be developed with 2.16 million sf of office space. The 2016 EIR found that construction vibration impacts on off-site receptors would be less than significant. With respect to on-site receptors, the 2016 EIR found that pile driving could result in ground vibration that disturbs new residences, and this impact was identified as significant. Mitigation Measure NOI-2.1 was identified to restrict pile driving within 175 feet of receptors to be conducted prior to occupancy in order to reduce the impact to less than significant with mitigation.

Additionally, the 2016 EIR identified a potential significant impact with respect to vibration from existing UPRR rail operations potentially affecting on-site residential uses of Parcel 5. Mitigation Measure NOI-2.2 was identified to prepare and implement a Vibration Control Plan to reduce vibration from the UPRR railroad operations for proposed sensitive land uses in order to reduce the impact to less than significant with mitigation.

Scheme C

As discussed above with respect to construction noise, it is assumed that the construction footprints between the Approved Project and Scheme C would not change substantially and that, because the increase in density in Parcel 4 would likely be accommodated by building height, construction noise and vibration impacts would be similar to those indicated in the 2016 EIR with the changes primarily resulting in an increased duration of the overall construction timeline. An increased duration of less than significant vibration levels would not result in a new impact. Therefore, construction-related vibration impacts associated with Scheme C would also be less than significant with mitigation and additional quantitative analysis of construction-related vibration is not warranted.

With respect to operational vibration impacts of existing rail activity on portions of Parcel 5 that were identified in the 2016 EIR, Scheme C would not result in any changes in the development scheme for Parcel 5. Therefore, the operational vibration impact Scheme C would also be less than significant with Mitigation Measure NOI-2.2, similar to the Approved Project. It is further noted that the potential effects of the environment on the project are no longer legally required to be analyzed or mitigated under CEQA, except where the project impacts exacerbate the existing conditions.

Impact NOI-5: Would Scheme C be located within an airport land use plan area or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport and would Scheme C expose people residing or working in the Project area to excessive noise levels?

As discussed above, a portion of the project site was within the 65 CNEL noise contour of San José Mineta International Airport (SJC) as designated in the 2011 CLUP. The FAA considers all land uses to be compatible when aircraft noise effects are less than 65 dB CNEL. (SCALUC, 2011). Although a new

CLUP was approved in 2024 with updated noise contours, this analysis applies the contours of the 2011 CLUP in the analysis of airport noise, consistent with the 2016 EIR. However, an additional, non-CEQA, assessment is provided relative to the updated 2024 CLUP.

Approved Project

Under the Approved Project, proposed residential uses located within the southwestern portions of Parcels 4 and 5 were identified as within the 65 CNEL contour from operations of SJC, resulting in a significant impact. Mitigation Measure NOI-1.3 was identified to reduce interior noise levels for residential uses to 45 dB CNEL or less. However, because the Approved Project would include outdoor residential areas located within the airport's 65 dB CNEL contour, it would result in a land use that is not compatible with the airports Comprehensive Land Use Plan and the impact was found to be significant and unavoidable.

Scheme C

Scheme C would increase the density of the approved uses in the City Center Mixed Use & Northwest Office (Parcel 4). Therefore, while there may be more residences with outdoor living space within the 65 CNEL contour under Scheme C, it would have the same significant and unavoidable aircraft noise impact described in the 2016 EIR, as Mitigation Measure NOI-1.3 would not reduce airport noise in outdoor areas. This impact would not be exacerbated building height to accommodate additional residential uses as the noise contours that are the basis for assessment in the CLUP are not affected by elevation.

It should be additionally noted that the County Airport Land Use Commission has adopted an update to its CLUP in March 2024 and this updated CLUP contains updated Noise Contours for airport operations. Based on the 2024 contours contained in Figure 5 of the 2024 CLUP, the City Center and Parcels 1 and 2 are no longer within the 65 CNEL noise contour.

Impact NOI-1d (Non-CEQA noise impacts of the environment on the project): Operational Noise Impacts on On-Site Land Uses.

Development of the Approved Project could expose future occupants of the project site to existing sources of noise. However, CEQA does not require that potential effects of the environment on the project be analyzed or mitigated. Nevertheless, an analysis of existing noise effects on the project is included to provide information to the public and decision-makers, to comply with General Plan policies, and to be consistent with the analysis presented in the 2016 EIR.

Approved Project

Under the Approved Project, Parcel 1 was to be developed with 1.2 million square feet (sf) of office space while parcel 2 was to be developed with 2.16 million sf of office space. The 2016 EIR found that events at Levi's Stadium, which is adjacent to the project site, are a considerable noise source in the Project area including portions of Parcels 4 and 5, which includes areas where new residential, commercial, and hotel land uses would be constructed. The 2016 EIR cited the 2009 49ers Stadium Project Environmental Impact Report which concluded that noise during sporting events at the stadium would exceed background levels by 19 to 24 dBA. Thus, residents and hotel occupants at the project site would be exposed to elevated noise levels during periods when the stadium hosts major events, resulting in a significant impact. Acoustical treatments included in Mitigation Measure NOI-1.3 (see discussion above) would not

mitigate stadium noise at the outdoor residential recreational areas and operational noise impacts during stadium events would remain significant and unavoidable even with mitigation.

Scheme C

Scheme C would increase the density of the approved uses in the City Center Mixed Use & Northwest Office (Parcel 4). Therefore, while there may be more residences with outdoor living space within the affected by event noise from Levi's stadium under Scheme C, it would have the same significant and unavoidable event noise impact described in the 2016 EIR, as Mitigation Measure NOI-1.3 would not reduce event noise in outdoor areas.

It is noted that noise monitoring data presented in Table 1 shows that the existing noise environment of Parcels 1 and 2 are 61 to 62 Ldn, which would be compatible with the City's General Plan exterior noise standards for industrial uses shown in Table 8.

Cumulative Impacts

Impact C-NOI-1 Would operation of Scheme C expose persons to or generate noise levels, in combination with cumulative development, in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?

Approved Project

Under the Approved Project, Parcel 1 was to be developed with 1.2 million square feet (sf) of office space while Parcel 2 was to be developed with 2.16 million sf of office space. The 2016 EIR found four roadway segments where significant cumulative noise impacts are predicted to occur and where the Approved Project's contribution to those impacts is cumulatively considerable. Implementation of Mitigation Measure NOI-1.2 was identified to reduce this impact. However, development of soundwalls along the other three roadway segments was found to be infeasible due to inconsistency with General Plan policies and the limitation of soundwalls to reduce noise levels for occupants of buildings above the ground floor. Hence, the impact was disclosed as significant and unavoidable.

Scheme C

As stated above, for construction noise, the same equipment would be used and the same distance to receptors analyzed in the 2016 EIR would occur. While there could be a greater duration of construction activity, this would not affect the magnitude of the noise levels experienced at nearby receptors and would not result in a further temporary or periodic *increase* in ambient noise levels. Therefore, the cumulative impacts from construction would be the same as identified in the 2016 EIR. While there is existing cumulative construction occurring along Calle del Mundo that was not envisioned in the 2016 EIR, this construction will be complete by the time construction under Scheme C commences. Therefore, there would be no new cumulative construction noise impacts.

Cumulative noise impacts from operations would occur if new sources were to be developed within 800 feet of project elements. While there will be new residential land uses becoming occupied along Calle del Mundo that were not envisioned in the 2016 EIR, residential uses are generally not considered to be a noise generating use.

Operational noise impacts of Scheme C would result primarily from increased traffic on the local roadway network. Cumulative (year 2035) plus project traffic data were used to estimate cumulative operational noise increases. The 2035 traffic data inherently include City growth projections.[16] The significance of cumulative impacts related to traffic noise levels is determined using a two-step process. If a cumulative impact is identified, the second step is to evaluate whether the contribution of the project to roadside noise levels would be cumulatively considerable. The roadway segments analyzed and the noise increases resulting from modeling are shown in **Table 18** for 203540 Cumulative plus project weekday with full buildout of the Scheme C project's mixed uses.

As shown in Table 18, although cumulative traffic noise impacts would occur along 11 of the 13 roadways analyzed, the traffic noise associated with Scheme C would only represent a cumulatively considerable contribution to these cumulative impacts (i.e., there would be an increase of 1.0 dBA or more over the cumulative without project scenario) along six of the roadways. Further, sensitive receptors are located along only two of the six roadway segments, for which a significant cumulative contribution is identified.

While there would be a cumulatively considerable contribution to the cumulative traffic noise impacts along two segments of Tasman Drive, the 2016 EIR identified significant and unavoidable cumulative traffic impacts along four roadway segments (see **Table 19**). Therefore, Scheme C would result in a fewer number of impacted roadways than identified in the 2016 EIR and would not result in new or more severe traffic noise impacts.

[16] See the *2024 Related Santa Clara Traffic Analysis Memo* prepared by Arup for the Project Applicant and peer reviewed by Hexagon for the City of Santa Clara. Per the *2024 Related Santa Clara Traffic Analysis Memo*, cumulative traffic volumes are based on the latest available County of Santa Clara Travel Demand Model outputs considering current data for development projects and adjusted for 2018/19 traffic counts.

6 References

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TABLE 18
MODELED TRAFFIC NOISE LEVELS YEAR 2035 WITH WEEKDAY P.M. FULL BUILDOUT OF SCHEME C PROJECT MIXED USES

Roadway Segment	Background	Applicable Increase Threshold (dB)	2035 plus Full Buildout of Scheme C Project Mixed Uses	dBA Difference 2035 plus Full Buildout of Scheme C Project Mixed Uses from Background	Significant Cumulative Increase?	2035 No Project	dBA Difference 2035 plus Full Buildout of Scheme C Project Mixed Uses from 2035 No Project	Cumulatively Considerable Scheme C Project Increase[g]?
Weekday Noise Levels								
Lafayette Street North of Great America Way	65.9	3	69.2	3.3	Yes	69.0	0.2	No
Lafayette Street between Great America Way and Future Driveway to Parcel 1	67.5	3	70.7	3.2	Yes	69.9	0.8	No
Lafayette Street South of Future Driveway to Parcel 1	67.5	3	70.6	3.1	Yes	70.0	0.6	No
Tasman Drive west of Great America Parkway	67.6	3	71.6	4.0	Yes	70.1	1.5	Yes
Tasman Drive between Great America Parkway and Lick Mill Boulevard	68.7	3	72.0	4.0	Yes	70.6	1.4	Yes
Tasman Drive east of Lick Mill Boulevard	69.1	3	72.2	3.2	Yes	71.3	0.9	No
Lick Mill Boulevard south of Tasman Drive	64.4	3	67.6	3.2	Yes	66.6	1.0	No
Great America Parkway North of Great America Way	71.3	3	74.2	2.9	No	72.2	2.0	NA[a]
Great America Parkway between Great America Way and Mountain View-Alviso Road	70.8	3	74.7	3.9	Yes	73.2	1.5	NA[a]
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	69.8	3	73.1	3.3	Yes	71.8	1.3	NA[a]
Great America Parkway south of Tasman Drive	71.3	3	73.5	2.2	No	72.2	1.3	NA[a]
SR 237 West of Great America Parkway	77.9	3	78.4	0.5	No	78.0	0.4	N/A
SR 237 East of Great America Parkway	77.0	3	77.6	0.6	No	77.1	0.5	N/A

NOTES:
dB = decibels; dBA = A-weighted decibels; N/A = The cumulative contribution test for the roadway is not applicable because there is no cumulative impact along this roadway.
[a] There are no noise-sensitive land uses along these roadway segments; thus, the impact would be less than significant.
Source: Traffic data compiled by ARUP in 2024; Modeling conducted by Environmental Science Associates in 2024.

TABLE 19
CUMULATIVE YEAR 2040 AND CUMULATIVE YEAR 2040 PLUS-APPROVED PROJECT NOISE LEVELS AT ACTUAL DISTANCE TO OFF-SITE RECEPTORS UNDER THE 2016 EIR

Roadway	Segment	Approximate Distance to Nearest Receptor (feet)	Receptor Land Use Type	Existing Ldn at Nearest Receptor	Cumulative Ldn at Nearest Receptor	Cumulative plus-Project Ldn at Nearest Receptor	Cumulative Increase (Difference between Existing and Cumulative plus Project)	Significant Cumulative Impact?	Project Contribution to Noise Level	Cumulatively Considerable Contribution?
Tasman Drive	Boulevard to Calle Del Sol	105	R	70.0	71.5	72.9	2.9	No	1.3	NA
Agnew Road – De La Cruz	Expressway to	50	R	65.2	70.6	71.6	**6.4**	**Yes**	**1.0**	**Yes**
Great America	SR-237 to Yerba Buena America Way	200	O	70.9	73.8	74.5	**3.6**	**Yes**	**.7**	No
Great America	Yerba Buena America Way to Old Mountain Road	80	O	74.6	74.1	75.8	1.2	No	1.7	NA
	SR-237 to Great America Way	No Existing	NA	NA	NA	NA	NA	NA	NA	NA
Lafayette Street	Great America Way to future driveway (south)	340	O	72.3	72.5	72.6	0.2	No	.1	NA
Lafayette Street	Calle Del Mundo to Tasman Drive	50	O	66.0	71.8	74.9	**8.9**	**Yes**	**3.0**	**Yes**
Lafayette Street	Tasman Drive to Hogan Drive	55	R	71.0	72.3	75.0	**4.0**	**Yes**	**2.7**	**Yes**
Lafayette Street	Hogan Drive to Hope Drive	50	R	71.3	73.0	75.4	**4.2**	**Yes**	**2.4**	**Yes**
Lafayette Street	Hope Drive to Agnew Road	60	R	72.1	72.7	74.8	2.6	No	2.1	NA
Lafayette Street	Agnew Road to Palm Drive	190	R	67.0	68.0	69.6	2.6	No	1.6	NA

Notes: Bold = significant impact, R = residential, O = office, NA = not applicable

Traffic noise was modeled using AM or PM Peak-Hour traffic volumes (whichever was higher); in this case, this was the PM Peak Hour, with the exception of the Great American Parkway from Yerba Buena Way to Old Mountain Road, which had much higher AM Peak-Hour with-Project traffic volumes.

Modeled 1-hour Leq values were conservatively converted into Ldn values by adding 2 dBA to each Leq result (based on trends in the 24-hour noise measurements).

Appendix A

Noise Monitoring Data, Stationary Source Calculations and Traffic Noise Level Calculations

Traffic Noise Model

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Related Santa Clara
Analysis Scenario: 2020 Baseline AM
Source of Traffic Volumes: ARUP; and Caltrans for SR 237

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Lafayette Street North of Great America Way	Hard	50	40	40	40	759	20	10	65.6	65.9
Lafayette Street between Great America Way and Future Driveway to Parcel 1	Hard	50	40	40	40	1,104	29	14	67.2	67.5
Lafayette Street South of Future Driveway to Parcel 1	Hard	50	40	40	40	1,105	29	14	67.2	67.5
Tasman Drive west of Great America Parkway	Hard	50	40	40	40	1,144	27	14	67.3	67.6
Tasman Drive between Great America Parkway and Lick Mill Boulevard	Hard	50	40	40	40	1,597	25	13	68.4	68.7
Tasman Drive east of Lick Mill Boulevard	Hard	50	40	40	40	1,700	31	15	68.8	69.1
Lick Mill Boulevard south of Tasman Drive	Hard	50	35	35	35	841	15	8	64.1	64.4
Great America Parkway North of Great America Way	Hard	50	40	40	40	1,644	143	70	71.0	71.3
Great America Parkway between Great America Way and Mountain View-Alviso Road	Hard	50	40	40	40	1,481	129	64	70.5	70.8
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	Hard	50	40	40	40	1,273	94	46	69.5	69.8
Great America Parkway south of Tasman Drive	Hard	50	40	40	40	1,793	132	65	71.0	71.3
SR 237 West of Great America Parkway	Hard	160	65	65	65	8,352	87	261	77.6	77.9
SR 237 East of Great America Parkway	Hard	160	65	65	65	6,912	72	216	76.7	77.0

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Related Santa Clara
Analysis Scenario: 2020 Baseline AM + Project
Source of Traffic Volumes: ARUP

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Lafayette Street North of Great America Way	Hard	50	40	40	40	855	20	12	66.1	66.4
Lafayette Street between Great America Way and Future Driveway to Parcel 1	Hard	50	40	40	40	1,410	29	34	68.7	69.0
Lafayette Street South of Future Driveway to Parcel 1	Hard	55	40	40	40	1,233	29	24	67.5	67.8
Tasman Drive west of Great America Parkway	Hard	50	40	40	40	1,884	27	14	69.0	69.3
Tasman Drive between Great America Parkway and Lick Mill Boulevard	Hard	50	40	40	40	2,917	25	13	70.6	70.9
Tasman Drive east of Lick Mill Boulevard	Hard	50	40	40	40	2,562	31	15	70.2	70.5
Lick Mill Boulevard south of Tasman Drive	Hard	50	35	35	35	1,299	15	8	65.6	65.9
Great America Parkway North of Great America Way	Hard	50	40	40	40	3,880	143	86	73.3	73.6
Great America Parkway between Great America Way and Mountain View-Alviso Road	Hard	50	40	40	40	3,513	129	66	72.7	73.0
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	Hard	50	40	40	40	2,535	94	48	71.3	71.6
Great America Parkway south of Tasman Drive	Hard	50	40	40	40	3,736	132	67	72.9	73.2
SR 237 West of Great America Parkway	Hard	160	65	65	65	9,550	87	269	78.1	78.4
SR 237 East of Great America Parkway	Hard	160	65	65	65	7,950	72	224	77.3	77.6

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Related Santa Clara
Analysis Scenario: 2020 Baseline Nighttime
Source of Traffic Volumes: ARUP

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Lafayette Street North of Great America Way	Hard	50	40	40	40	435	15	22	64.7	65.0
Lafayette Street between Great America Way and Future Driveway to Parcel 1	Hard	50	40	40	40	664	23	11	65.4	65.7
Lafayette Street South of Future Driveway to Parcel 1	Hard	50	40	40	40	682	23	11	65.4	65.7
Tasman Drive west of Great America Parkway	Hard	50	40	40	40	639	20	10	65.1	65.4
Tasman Drive between Great America Parkway and Lick Mill Boulevard	Hard	50	40	40	40	1,081	23	11	66.9	67.2
Tasman Drive east of Lick Mill Boulevard	Hard	50	40	40	40	1,123	26	13	67.2	67.5
Lick Mill Boulevard south of Tasman Drive	Hard	50	35	35	35	521	13	6	62.3	62.6
Great America Parkway North of Great America Way	Hard	50	40	40	40	951	110	54	69.3	69.6
Great America Parkway between Great America Way and Mountain View-Alviso Road	Hard	50	40	40	40	988	115	56	69.5	69.8
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	Hard	50	40	40	40	898	87	43	68.6	68.9
Great America Parkway south of Tasman Drive	Hard	50	40	40	40	1,160	113	55	69.7	70.0
SR 237 West of Great America Parkway	Hard	160	65	65	65	6,780	71	212	76.7	77.0
SR 237 East of Great America Parkway	Hard	160	65	65	65	5,099	53	159	75.4	75.7

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Related Santa Clara
Analysis Scenario: 2020 Baseline Nighttime + Project
Source of Traffic Volumes: ARUP

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Lafayette Street North of Great America Way	Hard	50	40	40	40	461	15	24	65.0	65.3
Lafayette Street between Great America Way and Future Driveway to Parcel 1	Hard	50	40	40	40	706	23	64	67.9	68.2
Lafayette Street South of Future Driveway to Parcel 1	Hard	50	40	40	40	719	23	46	67.3	67.6
Tasman Drive west of Great America Parkway	Hard	50	40	40	40	921	20	32	67.2	67.5
Tasman Drive between Great America Parkway and Lick Mill Boulevard	Hard	50	40	40	40	1,517	23	36	68.9	69.2
Tasman Drive east of Lick Mill Boulevard	Hard	50	40	40	40	1,405	26	39	68.8	69.1
Lick Mill Boulevard south of Tasman Drive	Hard	50	35	35	35	675	13	19	64.1	64.4
Great America Parkway North of Great America Way	Hard	50	40	40	40	1,643	110	184	72.4	72.7
Great America Parkway between Great America Way and Mountain View-Alviso Road	Hard	50	40	40	40	1,664	115	179	72.4	72.7
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	Hard	50	40	40	40	1,646	87	138	71.6	71.9
Great America Parkway south of Tasman Drive	Hard	50	40	40	40	1,750	113	172	72.4	72.7
SR 237 West of Great America Parkway	Hard	160	65	65	65	7,114	71	222	76.9	77.2
SR 237 East of Great America Parkway	Hard	160	65	65	65	5,457	53	169	75.7	76.0

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Related Santa Clara
Analysis Scenario: 2040 Cumulative AM
Source of Traffic Volumes: ARUP

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Lafayette Street North of Great America Way	Hard	50	40	40	40	1,495	43	21	68.7	69.0
Lafayette Street between Great America Way and Future Driveway to Parcel 1	Hard	50	40	40	40	1,880	54	26	69.6	69.9
Lafayette Street South of Future Driveway to Parcel 1	Hard	50	40	40	40	1,887	54	26	69.7	70.0
Tasman Drive west of Great America Parkway	Hard	50	40	40	40	2,047	50	25	69.8	70.1
Tasman Drive between Great America Parkway and Lick Mill Boulevard	Hard	50	40	40	40	2,360	48	24	70.3	70.6
Tasman Drive east of Lick Mill Boulevard	Hard	50	40	40	40	2,901	51	25	71.0	71.3
Lick Mill Boulevard south of Tasman Drive	Hard	50	35	35	35	1,388	25	12	66.3	66.6
Great America Parkway North of Great America Way	Hard	50	40	40	40	2,288	159	78	71.9	72.2
Great America Parkway between Great America Way and Mountain View-Alviso Road	Hard	50	40	40	40	2,904	201	99	72.9	73.2
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	Hard	50	40	40	40	2,468	115	57	71.5	71.8
Great America Parkway south of Tasman Drive	Hard	50	40	40	40	2,667	125	61	71.9	72.2
SR 237 West of Great America Parkway	Hard	160	65	65	65	8,519	89	266	77.7	78.0
SR 237 East of Great America Parkway	Hard	160	65	65	65	7,050	73	220	76.8	77.1

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

TRAFFIC NOISE ANALYSIS TOOL

Project Name: Related Santa Clara
Analysis Scenario: 2040 Cumulative AM + Project
Source of Traffic Volumes: ARUP

Roadway Segment	Ground Type	Distance from Roadway to Receiver (feet)	Speed (mph)			Peak Hour Volume			Peak Hour Noise Level (Leq(h) dBA)	Noise Level dBA CNEL
			Auto	MT	HT	Auto	MT	HT		
Lafayette Street North of Great America Way	Hard	50	40	40	40	1,597	44	22	68.9	69.2
Lafayette Street between Great America Way and Future Driveway to Parcel 1	Hard	50	40	40	40	2,194	67	33	70.4	70.7
Lafayette Street South of Future Driveway to Parcel 1	Hard	50	40	40	40	2,200	64	31	70.3	70.6
Tasman Drive west of Great America Parkway	Hard	50	40	40	40	3,127	50	25	71.3	71.6
Tasman Drive between Great America Parkway and Lick Mill Boulevard	Hard	50	40	40	40	3,527	48	24	71.7	72.0
Tasman Drive east of Lick Mill Boulevard	Hard	50	40	40	40	3,687	51	25	71.9	72.2
Lick Mill Boulevard south of Tasman Drive	Hard	50	35	35	35	1,863	25	12	67.3	67.6
Great America Parkway North of Great America Way	Hard	50	40	40	40	4,604	170	83	73.9	74.2
Great America Parkway between Great America Way and Mountain View-Alviso Road	Hard	50	40	40	40	5,008	202	100	74.4	74.7
Great America Parkway between Mountain View-Alviso Road and Tasman Drive	Hard	50	40	40	40	3,851	117	57	72.8	73.1
Great America Parkway south of Tasman Drive	Hard	50	40	40	40	4,260	126	62	73.2	73.5
SR 237 West of Great America Parkway	Hard	160	65	65	65	9,760	89	274	78.1	78.4
SR 237 East of Great America Parkway	Hard	160	65	65	65	8,125	73	228	77.3	77.6

Model Notes:
The calculation is based on the methodology described in FHWA Traffic Noise Model Technical Manual (1998).
The peak hour noise level at 50 feet was validated with the results from FHWA Traffic Noise Model Version 2.5.
Accuracy of the calculation is within ±0.1 dB when comparing to TNM results.
Noise propagation greater than 50 feet is based on the following assumptions:
For hard ground, the propagation rate is 3 dB per doubling the distance.
For soft ground, the propagation rate is 4.5 dB per doubling the distance.
Vehicles are assumed to be on a long straight roadway with cruise speed.
Roadway grade is less than 1.5%.
CNEL levels were obtained based on Figure 2-19, on page 2-58 Caltran's TeNS 2013.

Stationary Source Noise Modeling

HVAC Noise Analysis

Determination of noise at nearest receptor

Noise Specification: 69 dBA at 20 feet Source: Illingworth and Rodkin, 2023

Assume 5 industrial HVAC Packages operated simula 76 dBA at 20 feet

Ni = No - 20(log Di/Do)

where:

Ni= attenuated noise level of interest
No= reference noise level
Di= distance to receptor
Do= reference distance

Receptor 1: Calle del Mundo Residences

Source : HVAC

No=	76	dBA
Di=	500	ft
Do=	20	ft
Ni=	48.04	dBA

Receptor 2: Shorewood Lane Residences

Source : HVAC

No=	76	dBA
Di=	750	ft
Do=	20	ft
Ni=	44.52	dBA

Generator Noise Analysis

Determination of noise at nearest receptor

Noise Specification: 75 dBA at 23 feet Source: Cummins 2018

Assume 6 generators tested simultaneously 83 dBA at 23 feet

Ni = No - 20(log Di/Do)

where:

Ni= attenuated noise level of interest
No= reference noise level
Di= distance to receptor
Do= reference distance

Receptor 1: Calle del Mundo Residences

Source : Generator

No=	83	dBA
Di=	500	ft
Do=	3	ft
Ni=	38.56	dBA

Receptor 2: Shorewood Lane Residences

Source : Generator

No=	83	dBA
Di=	750	ft
Do=	3	ft
Ni=	35.04	dBA

Truck Manuevering Analysis

Determination of noise at nearest receptor

Ni = No - 20(log Di/Do)

where:

Ni=	attenuated noise level of interest
No=	reference noise level
Di=	distance to receptor
Do=	reference distance

Receptor 1: Calle del Mundo Residences

Source : Truck Maneuvering into Loading Area with Operating TRU

No=	65.9	dBA
Di=	500	ft
Do=	50	ft
Ni=	45.90	dBA

Source : TRU On with Engine at Idle

No=	65.5	dBA
Di=	500	ft
Do=	50	ft
Ni=	45.50	dBA

Source : TRU On with Engine Off

No=	61.7	dBA
Di=	500	ft
Do=	50	ft
Ni=	41.70	dBA

Maximum noise level = 45.90

Attenuation from structure = 16 dBA (as calculated by HUDs Barrier Performance Module)

Resultant noise level = 29.90

Multiple operations (5) = 36.9

Receptor 2: Shorewood Lane Residences

Source : Truck Maneuvering into Loading Area with Operating TRU

No=	65.9	dBA
Di=	750	ft
Do=	50	ft
Ni=	42.38	dBA

Source : TRU On with Engine at Idle

No=	65.5	dBA
Di=	750	ft
Do=	50	ft
Ni=	41.98	dBA

Source : TRU On with Engine Off

No=	61.7	dBA
Di=	750	ft
Do=	50	ft
Ni=	38.18	dBA

Maximum noise level = 42.38

Resultant noise level = 26.38

Multiple operations (5) = 33

Calculation of Back-up Alarm Noise Levels from Industrial Loading Areas

Site Location: Parcel 2 Northernmost building Related Santa Clara

Distance from loading dock to property line of site = 800 feet per site plan
Distance from property line of site to property line of nearest residence = 20 feet per Google Earth

Total distance between source and receiver = 820 feet

Published noise level at source: 87 -112 dBA Source: OEM 2007
Average documented noise level = 99.5
Working assumed Noise level : 105 dBA Reasoning: source data wide and old. Per article improvements made by manufacturers over time
Select upper end but not top end

Attenuation of noise with distance

Ni = No - 20(log Di/Do) (Caltrans, 2013)

where:

Ni= attenuated noise level of interest
No= reference noise level
Di= distance to receptor
Do= reference distance

No=	105	dBA
Di=	820	ft
Do=	4	ft
Ni=	59	dBA

Attenuation by 60-foot structure = 16 dBA (As calculated using HUD's Barrier Performance Module)

Realized noise level at receptor w/ shielding = 43 dBA

Noise Source	43	43	43	43	43
Remove LOG	18901.3262	18901.33	18901.33	18901.33	18901.33

Adding Noise Sources 49.8
(5 Trucks)

Calculation of Back-up Alarm Noise Levels from Industrial Loading Areas

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Adding Noise Sources 49.8
(5 Trucks)

Barrier Performance Module

This module provides to the user a measure on the barrier's effectiveness on noise reduction. A list of the input/output variables and their definitions, as well as illustrations of different scenarios are provided.

Calculator

View Day/Night Noise Level Calculator (/programs/environmental-review/dnl-calculator/)

View Descriptions of the Input/Output variables.

Note: Tool tips, containing field specific information, have been added in this tool and may be accessed by hovering over the Input and Output variables with the mouse.

WARNING: If there is direct line-of-sight between the Source and the Observer, the module will report erroneous attenuation. "Direct line-of-sight" means if the 5' tall Observer can see the noise Source (cars, trucks, trains, etc.) over the Barrier (wall, hill/excavation, building, etc.), the current version of Barrier Performance Module will not accurately calculate the attenuation provided. In this instance, there is unlikely to be any appreciable attenuation.

Note: Barrier height must block the line of sight

Input Data

H	60	**R^1**	20
S	12	**D^1**	500
O	77	**α**	180

Calculate Output

Output Data

h	45	**R**	26
D	497	**FS**	15.9971

Barrier Performance Module

This module provides to the user a measure on the barrier's effectiveness on noise reduction. A list of the input/output variables and their definitions, as well as illustrations of different scenarios are provided.

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Note: Barrier height must block the line of sight

Input Data

H	60	**R^1**	200
S	12	**D^1**	800
O	77	**α**	180

Calculate Output

Output Data

h	35	**R**	203
D	799	**FS**	13.1038

Noise Monitoring

Calculated Ldn from Long-Term Noise Monitoring Data

Meter 0004435
4/3/2024
Wednesday

	TIME	dBA	Numbers...	10 dBA More Numbers...	5 dBA
Midnight	0 / 24	47.3	53558	535576	169364
am 1:00	100	48.1	64139	641385	202824
2:00	200	50.4	109531	1095307	346367
3:00	300	48.4	69104	691041	218526
4:00	400	49.3	84615	846149	267576
5:00	500	50.5	111259	1112592	351833
6:00	600	56.9	486370	4863702	1538038
7:00	700	58.9	772129	7721292	2441687
8:00	800	59.2	825433	8254333	2610249
9:00	900	58.8	761404	7614037	2407770
10:0(	1000	58.6	729169	7291687	2305834
11:0(	1100	57.0	500781	5007812	1583609
12:0(	1200	58.6	723046	7230461	2286473
pm 1:00	1300	58.1	651998	6519976	2061797
2:00	1400	59.6	905361	9053615	2863004
3:00	1500	58.1	651876	6518760	2061413
4:00	1600	57.4	555605	5556048	1756977
5:00	1700	57.9	621096	6210964	1964079
6:00	1800	60.4	1084931	10849307	3430852
7:00	1900	57.6	575578	5755778	1820137
8:00	2000	55.6	360279	3602790	1139302
9:00	2100	52.2	167442	1674422	529499
10:0(	2200	48.6	73063	730634	231047
pm 11:0(	2300	54.6	289587	2895870	915754

Leq Nighttime 10:00 p.m.-7:00 a.m. (not penalized)
52 dBA

Leq Daytime 7:00 am-10:00 p.m.
59 dBA

Leq 24-Hour
57 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.
60 dBA

CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m., and 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.
60 dBA

CNEL - Ld 0.4233725

Calculated Ldn from Long-Term Noise Monitoring Data

Meter 0004337
4/3/2024
Wednesday

	TIME	dBA	Numbers...	10 dBA More Numbers...	5 dBA
Midnight	0 / 24	50.3	108012	1080120	341564
am 1:00	100	48.6	72234	722339	228424
2:00	200	47.6	57967	579672	183308
3:00	300	47.0	50318	503182	159120
4:00	400	50.1	102128	1021283	322958
5:00	500	50.9	121892	1218919	385456
6:00	600	58.5	709062	7090617	2242250
7:00	700	57.6	570363	5703625	1803645
8:00	800	55.8	384447	3844475	1215730
9:00	900	57.9	610724	6107240	1931279
10:0(	1000	57.6	574874	5748744	1817913
11:0(	1100	59.1	815609	8156090	2579182
12:0(	1200	60.1	1028897	10288972	3253659
pm 1:00	1300	59.9	980490	9804896	3100580
2:00	1400	60.5	1117509	11175089	3533874
3:00	1500	61.0	1264043	12640434	3997256
4:00	1600	60.6	1148159	11481589	3630797
5:00	1700	60.9	1231448	12314478	3894180
6:00	1800	62.2	1667497	16674968	5273088
7:00	1900	61.9	1534239	15342389	4851690
8:00	2000	60.1	1012097	10120967	3200531
9:00	2100	58.7	733542	7335420	2319664
10:0(	2200	56.3	430357	4303571	1360909
pm 11:0(	2300	56.1	405736	4057364	1283051

Leq Nighttime 10:00 p.m.-7:00 a.m. (not penalized)
54 dBA

Leq Daytime 7:00 am-10:00 p.m.
61 dBA

Leq 24-Hour
58 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.
62 dBA

CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m., and 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.
62 dBA

CNEL - Ld 0.7961024